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Editorial Notes

IN our last number we promised to write a longer account of the first number of 'Ancient India', which reached us as we were going to press. Instead of a full-dress review we propose to say something about it in these Notes, and to add a few remarks about some journals and other publications received. Such publications are the best possible evidences of life (or death) in the bodies that produce them; all have been sent to us for review and are dealt with on their merits, as we see them, without fear or favour. We say this because we know that it may be said that our opinions are sometimes influenced by personal considerations—the reply is that we know a good thing when we see it.

'Ancient India' contains an air-photograph (almost the first of its kind from that country) which, bad as it is, reveals a new world. The view of Tughlaqabad, one of the seven cities of Delhi, shows a medieval town, with its houses, streets, walls and mosque; and it is merely one of many, awaiting similar revelation. From Syria and Iraq to Burma, the ancient east is strewn with these deserted cities whose plans—and that is the prime need—can now be obtained so easily by air-photography. But even now, 30 years after the brilliant discovery of Old Baghdad (Samara) by Major Beazeley during the last war, no air-photographs of that city have been published, and the only complete set of vertical photographs of it, so far as we know, were taken from mail-plane between Baghdad and Mosul in October 1928.

The air-photograph of Tughlaqabad is bad because it was taken at the wrong time of day. It is well known that, to obtain the best results from shadow-sites, that is sites whose features are outlined by their shadows, the photographs *must* be taken when the sun is low and the shadows long—otherwise banks and mounds do not cast a shadow. The one in question appears, so far as we can judge, to have been taken when the sun was as nearly vertical as possible; consequently the remains of the ancient streets and houses are much less plainly visible than they would have been if the photograph had been taken at the proper time. However, all this is criticism, not of the Editor of 'Ancient India' but of the R.I.A.F. photographer.

Stuart Piggott contributes an article on ' The Chronology of Prehistoric North-west India ' illustrated by a map, drawings of typical objects, and a graphic table of affinities between India on the one hand and Iraq and Iran on the other. From this it appears that India can now produce two cultures at least (Quetta and Jhangar) that may be contemporary with the oldest prehistoric cultures of Iraq (Uruk and Ubaid). Thus we may find that the mounds of the Indus culture cities contain, in their as yet untouched lower layers, a full sequence of strata going back to a very remote beginning.

The technical but extremely important task of conservation is dealt with by M. S. Vats (Repairs to the Taj Mahal) and Khan Bahadur Mohd. Sana Ullah (' Notes on the preservation of Antiquities in the Field ') ; and there are articles on pottery and coins. It is altogether admirable, we think, that an Indian archaeological publication should contain an air-photograph, a measured drawing of pottery, and practical hints for the use of workers. The format is above praise and the type a most welcome change from the wretched ill-set illegible stuff that the Government of India usually produces. ' Ancient India ' is of course not printed by the Government, but by the Baptist Mission Press of Calcutta. The subscription rate is 7 rupees or 11 shillings for four numbers (two years) and it can be obtained from the Manager of Publications, Civil Lines, Delhi. It is extremely good value for the money and we wish it every success and a long life.

A correspondent has written protesting against the statement (ANTIQUITY, XX, 2) that ' so far there has been no serious or organized attempt to instruct Indians in modern archaeological technique ' ; and pointing out that such attempts were made by the late Mr Mackay at Mohenjo-daro and Taxila. Further progress along these lines was cut short by government retrenchment. Our statement that ' such methods as air-photography and post-hole technique ' do not appear to have been applied is also called in question ; and the two air-photographs of Mohenjo-Daro (Plates I and II of the book), which revealed new information and suggested an excavation (discontinued for financial reasons) are cited in evidence. We hardly think, however, that two air-photographs in twenty years disposes entirely of our criticism.

Air-photography is the chief preoccupation of two splendid volumes which publish the researches of Father Poidebard. A review-article of his earlier volume, written by the late Sir George Macdonald, was published 12 years ago in ANTIQUITY (VIII, 373–80, 1934). The present volumes, one of text and the other of plates, deal with the whole system of Roman remains in Northern Syria, including the network of roads. To have recovered all this and reconstructed it on a map, adding plans and drawings of innumerable forts and such like, is an achievement that is, in air-photography, unique, and in archaeological discovery as a whole very rare. One can compare it only with that of the greatest pioneers—Schliemann, Evans and Stein (whose air-work in the same region still remains unpublished). The title of the book is *Le Limes de Chalcis*, par R. Mouterde et A. Poidebard ; the plans and surveys are by J. Lauffray and S. Mazloum ; the cover bears the name of Geuthner and the date 1945. A note at the end states that the printing was completed on December 31st 1944, on the presses of the Catholics at Beyreuth ; the books reached us from the British Council, with a label stating that they were made

in Canada. This is all rather puzzling but we heartily congratulate all concerned on a very fine piece of research carried out (we are sûre) under great difficulties.

The aeroplane, armed with a camera and someone who knows how to use it, is the best possible vehicle for conducting rapid raids into new territory such as, in the past, the French have made with conspicuous success, from the day of Cailliaud (who did his explorations in the Sudan with, and sometimes even in front of, the Turkish army of conquest) to those of the missions in Persia and Baluchistan. In a monograph on *The Organisation of research and of prehistoric studies in France* (1941), Monsieur Vaufrey pleads, not for the first time, for the adoption of more up-to-date methods. It is flattering to us in this country that so many of his illustrations should be borrowed from it. (Owing to the war the reproduction is poor but that was inevitable in the difficult circumstances of the time). We have ourselves often preached the same sermon ; we now venture to go further and say that, unless the methods of Syrian research, together with other modern techniques, are adopted in the metropolitan country, French archaeology will remain in its present backward state. The days of ' cher-maitrism ' are past, and a fresh approach is needed. We congratulate Monsieur Vaufrey on his courage and hope that he will win the support that his enlightenment deserves.

We have not much space left to comment on another journal from the opposite end of the World—*The South African Archaeological Bulletin*, published at Cape Town (price 2*s* 6*d*) by the South African Archaeological Society. The first number (December 1945) is slim (are we not all nowadays ?) but vigorous and full of life. In many ways it reminds us of the first ' Proceedings ' of our own archaeological Societies a century ago—rather amateurish and all-embracing, but they stayed the course and can now look back on a long and well spent life. The Bulletin begins, as all such should, with Editorial Notes recording amongst other things the ' amazing reaction of the general public of the Cape Province ' to the recent foundation of the Cape Archaeological Society. This is the best possible guarantee that the infant will grow up—will there be any comparable reaction in India ? Further evidence that our South African colleagues mean business is given by the handbook on ' Method in Prehistory ' by A. J. H. Goodwin. We hope to review this in a later number ; meanwhile those interested can obtain it and further information from the Hon. General Secretary (Mr Goodwin), Sherwood, Sherwood Avenue, Kenilworth, Cape Town.

Ethiopian Rock-hewn Churches

by D. R. Buxton

WHILE engaged in locust investigations in Ethiopia between 1942 and 1945 I found ample opportunity to indulge my favourite hobby—the study of Christian architecture and antiquities. I knew, before coming to the country, that Ethiopia was little-explored and probably a fruitful field. I had heard of the pre-Christian monuments at Aksum, and of the extraordinary rock-hewn churches of Lalibela, both of which have been long (if not widely) known. But in the end the antiquities that came to light far surpassed my expectations, and I had the satisfaction of visiting many remarkable monuments, which have rarely been seen by Europeans, hidden away in the mountain fastnesses of the northern highlands. One or two Italian archaeologists had, it is true, begun to pay attention to some of these buildings, but I believe no connected account of the early Ethiopian style of architecture has yet been attempted. I propose in this summary article to confine myself mainly to the internal history of the monuments, only touching upon the more difficult question of the ultimate sources of the style.

The Early Monasteries

The oldest surviving Christian church in Ethiopia is, as far as I know, that of Debra Damo. This ancient monastery stands on the summit of a flat-topped mountain encircled by vertical cliffs, and can only be reached by climbing a rope up the rock-face. The monastery can be seen in the distance from a motor-road that cuts across the northern mountains between Adua and Adigrat in Tigré, not far from the Eritrean border.

I first visited Debra Damo with my friend John Grimwade of the Friends' Ambulance Unit in October 1944. We were most hospitably received by the monks, who assured us that no Englishmen had ever been there before. The monastery was, however, studied in 1906 by the German Aksum Expedition, whose members did a surprising amount of work in a very short time and left a full description of the ancient church, with plans and sections (1). They were unable to date the building with any precision, and considered it could have been erected any time from the 6th century, when the monastery was founded, to the 11th century. They clearly demonstrated its connexion with a style of building, known from numerous foundations, which was practised locally in pre-Christian and very early Christian times. They also suggested that it was influenced by the early Christian basilican architecture of Syria and, in the field of ornament, by Egypt. This was to be expected as the early Ethiopian Church had many connexions with those of both Syria and Egypt.

The church (see plan and section, FIGS. 1 and 2) is rectangular and almost twice as long as broad, measuring 66 feet by 32. There are several indentations in the plan due to sections of the wall being recessed—an arrangement typical of early Ethiopian plans. The wall-structure itself is very individual. Except at the corners, where square stone quoins are used, the walls appear to consist of alternating layers of timber

[1] Littmann, Krencker and Lüpke, *Deutsche Aksum Expedition*. 4 vols. Berlin, 1913.

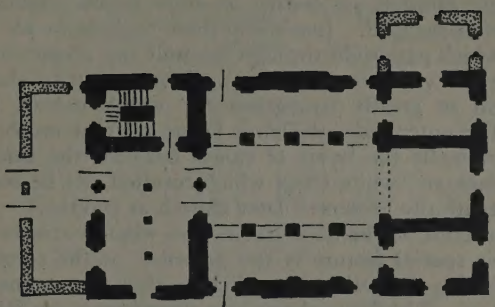


FIG. 1. DEBRA DAMO, BASED ON PLAN BY GERMAN AKSUM EXPEDITION

Dotted parts probably later additions. Dimensions (including western extension) 66×32 feet

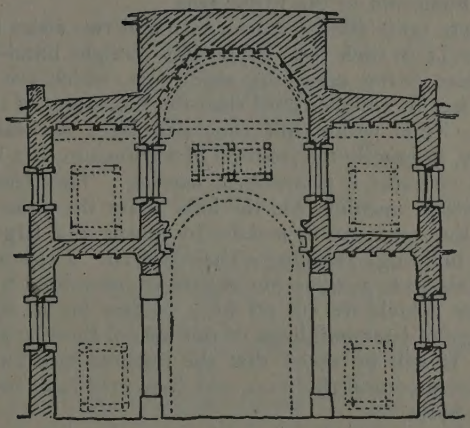


FIG. 2. DEBRA DAMO: NORTH-SOUTH SECTION LOOKING E., BASED ON THAT BY GERMAN AKSUM EXPEDITION

Width, 32 feet, internal height of nave about 29 feet

and small stones set in earth-mortar (PLATE Ia and FIG. 3). In reality the wooden layers do not go right through but consist of single beams slightly set back from the inner and outer faces of the wall. Just above these timbers we see the numerous round heads of short logs which pass right through the wall and project freely both inside and out (a few of these are visible in PLATE Ia). They serve to clamp the longitudinal timbers together and so greatly strengthen the wall-structure, but also have great decorative value. The outer walls of Debra Damo are now much washed out and of a uniform hue, but originally the layers of stones between the timbers were plastered. The very striking black-and-white effect which resulted can be seen in the illustration (PLATE IIa) of the beautifully preserved later church at Imraha.

The detailed structure of the door-frames and window-frames (FIG. 3) is also most characteristic. Their special feature is the presence, at the corner of each frame, of squared posts penetrating the wall and projecting after the manner of the short round timbers just referred to. The figure shows how these frames are fitted together and sunk into the longitudinal wall-timbers. The internal wooden frieze is built on the same principle, like a series of small blind windows. This method of construction must have been in use long before the Christian period, for its external features were scrupulously copied in the sculptured decoration of the great standing monoliths at Aksum (FIG. 4) (2). There is evidence to show that all the features mentioned above (the indented plans, the structure of the walls, the window- and door-frames) were derived from methods of building once used, and probably to some extent still used, in southern Arabia—the original homeland of the Ethiopians.

The interior (PLATE Ia) is divided into a nave and two aisles by means of two rows of monolithic columns (3 in each row) supporting straight lintel-beams. Only a little above the level of these beams come the aisle roofs, which are flat, and surmounted by lofts. The nave rises to a higher level than the remainder of the building and has a timbered roof, fully visible within but concealed by a flat earth-roof outside. On either side of the nave, in exactly the position of a triforium, is a kind of wooden frieze, each panel of which contains a geometrical carving. This frieze is surmounted by windows, like a clerestory, opening into the lofts above the aisles. At the eastern end the nave passes into the sanctuary or *makdas* by means of a large carved wooden arch (the only arch in this building), recalling a chancel-arch. I was unable to pass through or even see through this arch, as none but priests are permitted to enter the sanctuaries of Ethiopian churches, which are cut off by a curtain (as in this case) or by doors. Judging by the analogy of later buildings of this school there is probably a small dome over the sanctuary. It will be noted that the features mentioned in this paragraph belong to a western architectural tradition, and they may have been derived from early Christian basilicas in Syria.

Immediately to the west of the nave is an antechamber or narthex. It balances the sanctuary at the other end but is very low, and supports, like the aisles, an upper storey. This narthex, which is unfortunately very dark, possesses a superb wooden, panelled ceiling, blackened with age and now in serious disrepair (PLATE IVa). Each panel once contained a carving, but many are now missing. Some of the carvings are geometrical and foliage designs like those of the frieze. But the majority constitute a wonderful series of animal subjects, some naturalistic, some grotesque and fabulous.

[2] Compare the precisely similar timber-and-stone construction of the prehistoric Swiss hill-fort described by Dr Bersu in our last number (ANTIQUITY 1946, XX, 5), and the accompanying plan and section. Did this style originate in the numerous hill-forts (amba) mentioned in the ancient Abyssinian annals ?—O.G.S.C.

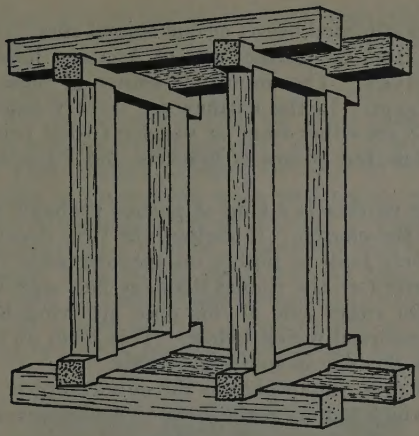


FIG. 3. DIAGRAM TO EXPLAIN CONSTRUCTION OF WINDOW-FRAMES AT DEBRA DAMO AND ELSEWHERE

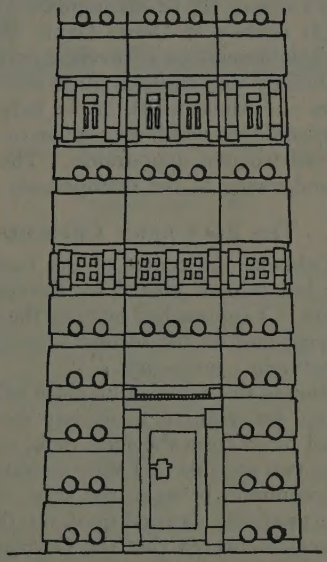


FIG. 4. LOWER THIRD OF THE GREAT STOREYED MONOLITH AT AKSUM WHOSE TOTAL HEIGHT IS 70 FEET

Certain of these, such as affronted beasts or one animal chasing another, with or without a ' tree of life ', derive from the ancient arts of Asia and have become familiar in the Byzantine and Coptic styles. The immediate source of these subjects may well have been either Syria or Egypt. In the narthex are three wooden columns with capitals of peculiar shape, which are either stone or wooden (wood being the original material). They are not true capitals, but groups of brackets, and I propose to call them ' bracket-capitals '.

Finally, next to the narthex is a kind of portico probably built at a somewhat later period than the rest of the church. It shelters the twin doorways of the original west front, which are massively built in timber on approximately the same principle as the windows mentioned above (see the similar doorway half seen in PLATE Ia and compare Imraha, PLATE IIa). On either side of this door are windows in the form of paired arches with carved geometrical panels below. This form of window is clearly derived from a type common to this day in southern Arabia.

This building is of great importance as the only complete example remaining of an early Ethiopian style, which led on to the style of the indestructible rock-churches next to be dealt with. Its survival in such an exposed position is very surprising. But the inaccessible site of the monastery at least preserved it from deliberate destruction at the hands of the Muhammadan invaders of the sixteenth century, who left few churches standing in their path.

One other church should be mentioned in this connexion—that of the equally ancient monastery of Debra Libanos (to be distinguished from the other, better known, Debra Libanos in Shoa). It is close to Debra Damo but on the opposite side of the border, in Eritrea. The whole monastery is perched on a narrow ledge half way down a cliff, and must be approached by a precipitous climb down several hundred feet of rock. The church, which occupies the whole width of the ledge, has walls constructed as at Debra Damo and several monolithic windows similar to those of Imraha (PLATE IIa); inside there is a finely carved wooden door-frame. The building appears to be more recent than Debra Damo and owing to the cramped site has a much simplified plan.

The Rock-hewn Churches

I have twice visited Lalibela, the centre of the rock-church style. It cannot be reached by road and so is but seldom visited by Europeans, though many Ethiopian pilgrims make their way there. I approached once by the usual route from Waldia to the southeast (three days' journey) and on the second occasion from Sokota, directly to the north, in the course of a fortnight's mule-trek.

Only a cursory description of this astonishing place will be possible here. A volume, abundantly illustrated, would be required to do any sort of justice to it (3). Among the dozen or so churches, all hewn from the solid rock, one first gains the impression of extraordinary variety, for no two are alike. I was unaware, when first visiting the place, that there was anything in common between the style of the rock-hewn churches and that of Debra Damo, but it gradually dawned upon me that there was a very close connexion indeed. I have since discovered that the German Aksum Expedition long ago pointed out a number of resemblances. But their material on Lalibela (which they did not attempt to visit) was inadequate, and did not enable them to develop a comprehensive theory on the subject.

[3] Monti della Corte, *Lalibela*, Rome, 1940, to some extent meets this need. See also Findlay, *The Monolithic Churches of Lalibela*, Bulletin de la Société d'Archéologie Copte, vol. IX, Cairo, 1943.

One group of churches includes that of Medhani Alem (the Saviour of the World). Like the other principal rock-churches it is cut from a gigantic block of rock (in this case 110 by 77 feet and 35 feet high) separated from its surroundings by means of deep trenches. It thus stands isolated in the midst of a court sunk in the rock, and both the inside and outside are shaped so as to resemble a built-up church. It is divided internally by four rows of massive square columns into a central nave with two pairs of aisles. The piers have plain bracket-capitals but there is no other adornment, and in its extreme austerity this is perhaps the most impressive, besides being the largest, of the Lalibela interiors. Externally it was surrounded by a complete series of slender, free-standing columns supporting a kind of entablature which formed the edge of the gabled roof. The columns have mostly fallen but are complete at the eastern end (PLATE IIIb). The roof itself is adorned with a recumbent blind arcade on either side.

From this church one passes through a tunnel into another and more spacious court, the favourite resort of priests, monks, pilgrims and young students reading from

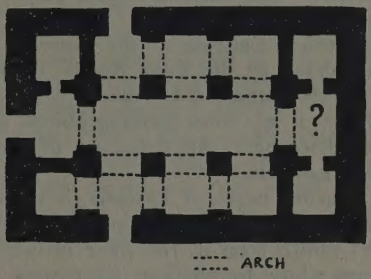


FIG. 5. LALIBELA (EMMANUEL): DIAGRAMMATIC PLAN OF A TYPICAL ROCK-HEWN CHURCH

The transverse section would resemble fig. 2
Dimensions, 58×38 feet

their sacred manuscripts. In the centre stands the rectangular block, with three projecting porches, of the Mariam (Mary) church. Though plain outside there is an unusual wealth of carved detail within, where the general lay-out follows the pattern of Debra Damo. In the depth of the great rock-rampart which surrounds this court two other smaller churches have been excavated ; and to the west, through twin arches, one enters a passage-way which itself forms the roof of yet another church located below one's feet. This latter includes the tomb-chapel of Lalibela himself with life-size effigies of saints sculptured in high relief—a unique feature.

A second group of churches includes Amanuel (Emmanuel) rising from its deep narrow court, as from a pit (PLATE IIIa and FIG. 5). The outside in this case is most elaborate, with horizontal courses alternately recessed and projecting which represent the stone and timber layers of Debra Damo, and indentations of the same ancient tradition. Inside (PLATE Ib) one finds a nave and two aisles (the latter with lofts above) and an impressive stone version of the Debra Damo frieze. A dome surmounts the sanctuary, which is approached through an arch, and there are also longitudinal arches in the nave and transverse ones across the aisles. This group contains some other curious churches, incompletely isolated from the rock ; and in a cliff-face at a lower level

is Abba Libanos, attached to the rock both top and bottom but with a cave excavated around it.

At a distance from all the other churches (and quite unlike any of them) is Ghiorghis or St. George. It is cruciform in plan from plinth to roof and stands in the centre of a deep well-like court approached by passages and tunnels excavated in the rock. It was traditionally the last to be built of the Lalibela churches, a supposition borne out by its ogee arches, a feature found in only a few rock-churches which seem, on other evidence, to be later.

Lalibela is like a rabbit-warren of mysterious holes, passages, and tunnels in the rock where one easily gets lost as in a maze. It is a maze in three dimensions, for the churches stand at various levels and the passages and tunnels lead up and down and around from one to another, so that a plan of the place drawn in one plane is more misleading than helpful.

The short notes given above have left unmentioned several Lalibela churches, including Asheten Mariam, excavated at the top of a cliff some 2000 feet above the village. There are many other rock-hewn churches in various parts of the country which must be dismissed in a few words.

About a day's journey north of Lalibela are the churches of Bilbala Cherkos, Bilbala Ghiorghis, and a third, dedicated to the Four Beasts, between the latter village and Imraha. There is also Ghenetta Mariam (' Garden of Mary '), easily visited on the way between Lalibela and Waldia ; it is a most striking object, recalling, with its complete external colonnade, a classical temple. All these are of somewhat inferior workmanship and evidently later than Lalibela.

At Sokota, four days' journey north of Lalibela, is the church of Maskala Kristos (the Cross of Christ) which, unlike those just mentioned, is very perfectly executed (PLATE IIb). Its ' stepped ' plinth seen in the plate is interesting as a link with pre-Christian Aksumite buildings whose foundations are treated in the same way.

In Tigré, the northernmost province of Ethiopia, there are several rock-hewn churches. One of these, known to Europe ever since the passage of Napier's army to Magdala in 1867–8, stands close to the main Addis Ababa to Asmara road at Woghoro, about forty miles south of Adigrat. Its plain façade, hewn in reddish sandstone, stands in full view of the road, but gives little idea of the elaborate and rather unusual interior. As far as I know this is the only rock-church in Ethiopia which can be reached by motor-road.

Further south the examples of this style become scarce, but there are two in the neighbourhood of Addis Ababa. The so-called Portuguese Ruin, which of course has nothing to do with the Portuguese and is properly called Yekka Mikael, was an ambitious effort but never completed and very degenerate in every respect. Secondly there is Adadi Mariam, about thirty miles southwest of Addis Ababa and difficult of access, being far from any road. It is an interesting subterranean church, roughly executed but well preserved and still in use.

The principal churches in Lalibela itself, especially those that stand completely isolated from the surrounding rock, show an extraordinary degree of technical skill both in planning and workmanship. There is no reason to doubt the local tradition that artizans from abroad—apparently from Egypt—were employed on the work, which was carried out under king Lalibela early in the 13th century. Most of the other examples of the style away from Lalibela, show a rougher technique and features which are to be interpreted as degenerate. They may nevertheless—as in the cases of Ghenetta Mariam and Bilbala Cherkos—be extremely attractive. Such examples were probably

the work of local craftsmen who had not fully mastered the original technique, but were not lacking in ideas. There is evidence that the specimens close to Lalibela were completed later in the 13th century. But examples further afield, such as the two near Addis Ababa, are difficult to date and may have been excavated any time up to the 16th century, when conditions became too unsettled for any architectural activity.

It has been said that the original artizans of Lalibela were probably imported from abroad, but it is evident that they were used solely as instruments to carry out their employer's ideas. Far from allowing them a free hand, king Lalibela obliged them to follow local models. The dependence of Lalibela on the Debra Damo tradition must become obvious to anyone who compares the buildings carefully, especially with the example before him of the Aksum monoliths, in which some of the same wooden features had already been translated into stone (FIG. 4).

The principal common elements in these styles are the rectangular plan with nave and two aisles, the latter surmounted by lofts (FIG. 5); the domed sanctuary at the east and vestibule at the west end, the former approached through an arch; the characteristic door- and window-frames (PLATE II); the internal frieze decoration (PLATE I); the bracket-capitals (PLATE Ib); and the window design consisting of twin arches rising from a decorative panel. But some other forms of window and the complex carved detail of the Mariam church had no counterpart at Debra Damo, nor was the use of round arches developed there to the extent seen at Lalibela.

Although it was plain that the style of the rock-hewn churches was derived from the more ancient Ethiopian style represented by Debra Damo, the chain of evidence was not by any means complete. I knew of no link that might connect the two styles and bridge the gap that separated them in time (perhaps 400 years) or in space (about 200 miles—a long way in that extremely broken and difficult country).

Connecting Links

It was with great interest that I heard of what promised to be just such a link as was required. My friend Mr Molesworth, then Press Attaché at H.M. Legation in Addis Ababa, had been to Lalibela since my own first visit. While there he was fortunate enough to meet the youthful Governor of Lasta, Fitaurari Berhane Maskal, who insisted on taking him a day's journey northwards to the village of Imrahanna Kristos (or Imraha), whose church was said to be exceptionally interesting. It proved, in fact, to be not just another rock-church but something more or less in the Debra Damo tradition built up in an enormous cave. I knew no record of previous European visits to this very important church except that of Alvarez, the Portuguese priest, in 1620, and his description of it was very vague (4). I eventually reached the place myself in the course of a long trek in Waag and Lasta districts in June 1945.

The mouth of the great cave in which the church stands is sunk in a deep ravine and hidden among tall 'cedar' or juniper trees—a romantic and mysterious spot. The church itself (PLATE IIa) fulfilled all expectations and is certainly one of the most noteworthy antiquities in Ethiopia. It had been described to me as recalling our own black-and-white Tudor style, and it does indeed possess something of the intimate charm and picturesqueness of a half-timbered building—a character wholly wanting in the rock-churches. It is a miniature church by European standards—little more than forty feet long.

The walls, showing alternate layers of timber and small stones, are built as at Debra

[4] It was visited in 1939 by Monti della Corte and briefly described in his book *Lalibela*.

Damo, only the short cross-beams with their round projecting heads are wanting. The stone layers, jutting out somewhat beyond the wall-beams, are thickly covered in plaster, which owing to the shelter afforded by the cave is in almost perfect preservation. The general effect is therefore of dark and light horizontal stripes, broken by numbers of windows and by the vertical lines of the angles of the exterior wall, sections of which are set back as at Debra Damo. The whole effect is heightened by a setting of theatrical emphasis and simplicity : the blackness of the cave behind, the pale yellow of dry grass which is strewn under foot.

The plan (which closely resembles FIG. 5, but has only 4 bays) and general interior lay-out derive from the Debra Damo tradition. However we see here that the columns support longitudinal wooden arches instead of straight lintel-beams—an advance on Debra Damo, adopted as the usual practice at Lalibela. The columns have elaborate stone shafts carrying wooden bracket-capitals which are treated logically, brackets being omitted where not required. The top of the nave projects as a long gable above the rest of the roof, and the outline of a little dome over the sanctuary can also be seen. There is a wooden internal frieze, more elaborate than that of Debra Damo, but imitated exactly at Lalibela Mariam, and door- and window-frames of the usual wooden type. There are also a variety of wooden window-lattices, the simpler of which, of several cross and swastika forms, are all found reproduced in stone at Lalibela. The light-coloured window fillings such as appear in PLATE IIa are cut from single stones. An abundance of elaborate geometrical carving is found in various parts of the interior.

Traditionally the church goes back to the time of Imrahanna Kristos himself, the king by whose name the village and church are known and whose tomb is pointed out in the same cave. He reigned from 1110 to 1150. Some of the details of the church may date from a later period and do, indeed, seem rather fresh for the twelfth century. However that may be, I cannot doubt that this church represents, in remarkably beautiful and complete form, the prevalent style of architecture in Ethiopia in the Middle Ages. It forms a perfect link between Debra Damo and the rock churches, which were excavated, according to local records which are probably reliable, early in the 13th century.

I was always on the look-out for other links, but they were not easy to find. One such, however, was the church of Jammadu Mariam among the mountains of eastern Lasta. It was visited by the English wanderer, Nathaniel Pearce, in 1808 but never again as far as I know by any European until one or two Italians passed that way during the occupation. Pearce, quoted by Salt (5) described it as ' extremely imposing in its general aspect ' which was not very informative. We were led up, among groves of tall junipers, to the foot of a cliff, and here was the mouth of a cave, inconspicuous because almost completely walled up. We entered through a narrow doorway and found ourselves in a spacious cave, in the middle of which stood a charming little church. Its main design was akin to Imraha, but every detail different. The walls were in dressed red stone (incorporating only one wooden course) bare below but stuck over with modern paintings of biblical scenes above. The door and window-frames were in timber and of the usual design. Unfortunately the chief priest was out and had taken away the key of the church ; so at least I was told. However I could see through the windows that the main interior space was of two bays only with wooden pillars supporting straight lintel-beams, which were surmounted by a simple wooden frieze very similar to that of Debra

[5] Henry Salt. *A voyage to Abyssinia and travels in the interior of that country*, London, 1814, p. 302. [It is also stated there that this church was 'very similar to the one, which I (Salt) visited on my way to Chelicut, called Abba os Guba'.—Ed.]

Damo. Therefore although apparently much later in date than Imraha this church retained a simpler design, and so approximated in some ways more closely to the primitive pattern of Debra Damo. It was an engaging little monument, and a useful link in the stylistic chain.

Finally I must mention Aramo, a village a few miles southeast of Senafé, in Eritrean territory close to the Ethiopian border. From the Italian guide-book to East Africa (a most useful compilation) I knew of an old church here, described as containing fine wood-carvings. I was dismayed to find that the old building had lately been pulled down and completely reconstructed. However in a neighbouring shed some splendid carvings were found to be preserved, and one important fragment was lying about outside (6). There were sections of two or three wooden arches with edges and soffits elaborately carved in geometrical designs (PLATE IVb) and a number of small panels in the same manner. It struck me at once that the style of these designs was identical to that seen in the rock-church of Mariam at Lalibela. Here then I had stumbled on one more link between Debra Damo and the rock-churches, for these carvings were a fragmentary remnant of that intermediate Ethiopian style which has so nearly disappeared but survives, transmuted into stone, in the rock-hewn churches of the Lalibela school.

Needless to say, these enquiries, hastily undertaken as opportunity offered in the course of other work, do little more than point the way for more serious studies; moreover my own observations have been confined to the architectural side. Besides this aspect of the subject there are many others awaiting attention—oral traditions (which may have an important bearing on history), an abundance of written records, inscriptions, church paintings (some of them ancient) and sundry relics and treasures, not easily got at—the number or historic value of which no one knows. All these will have to be studied before anyone can attempt a full and satisfactory account of Ethiopian Christian antiquities, or of medieval Ethiopian history in general.

However it does appear from these limited studies that the subject has in the past been neglected and also misunderstood. It has often been assumed that the Lalibela churches (the best known of the country's Christian monuments) were an alien product set down in the depths of Ethiopia. We have seen, on the contrary, that the workmen employed there, though they came from abroad, were most strictly controlled and obliged to reproduce in every detail a style which had existed locally for hundreds of years.

The Ethiopian style of architecture, rooted essentially in building methods native to southern Arabia, but influenced by a western tradition, led an independent existence from early Christian times until the disturbances of the 16th century. It is a heritage the Ethiopians of today are only beginning to appreciate, but one of which they may well be proud and which, we may hope, they will come to cherish in the future.

[6] All have since been removed to the Asmara museum.

The Origins of the Romano-British Forum

by R. G. Goodchild

In his Report on Excavations at Wroxeter, 1923–27, Professor Atkinson has discussed at some length (Appendix C, pp. 345–62) the origin of the type of Forum-Basilica block which seems to have been generally adopted for the civic centres of Romano-British tribal capitals. He concludes that this plan (which he designates the *principia*-type) is of military origin, based on legionary *principia*, and was adopted ' perhaps first in the Flavian period, under military influence, in provinces where this was strong and civil development weak and backward . . . for use as the administrative centre of the civil town '.

We may note, with appreciation, that Professor Atkinson does not repeat in this Report the hypothesis put forward at an earlier date in which the plan of the Hadrianic Forum is quoted as testimony for the pre-Flavian rôle of Viroconium : a hypothesis which in one form or another has found its way into several text-books. The suggestion now put forward is not that the Wroxeter Forum reflects the military origins of Wroxeter, for any such proposed origin would be hard to reconcile with the existence of similar fora on sites which have no military origin—but that it reflects the backwardness of civil development in Britain (1).

That civil development was backward in Britain we need hardly doubt. The non-completion of the Flavian baths at Wroxeter is sufficient illustration. Yet it is open to doubt whether this backwardness would necessarily result in the adoption of military types of buildings to fulfil civil requirements ; for there is at Wroxeter no evidence that the civilian buildings were actually erected by military working-parties, who would be more familiar with their own types of buildings. Had this been the case, one might reasonably have expected stamped tiles from the legionary brickworks at Holt to be present on the site ; or at least some mention of the constructors on the fine dedication slab erected by the ' Civitas Cornoviorum '.

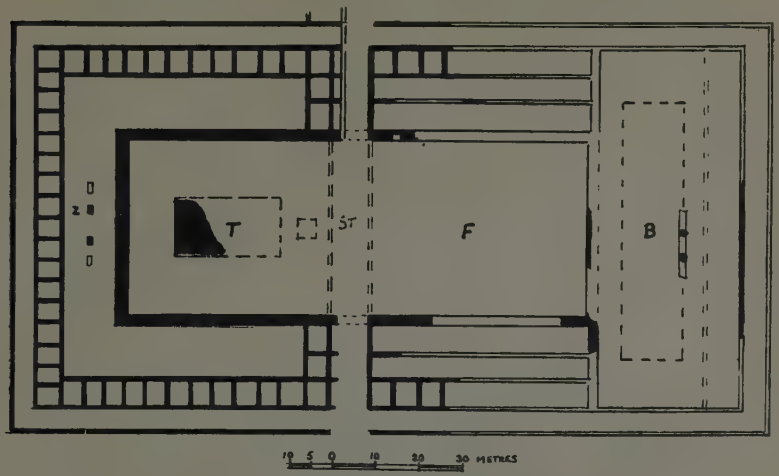
Professor Atkinson's suggestion is simply that the type is of military origin, adopted for civilian use in Britain presumably because it was more convenient or more expedient to build a replica of legionary principia than to design a Forum specially suited for the requirements of the Romano-British town.

It is not proposed to discuss here in detail the evidence that Professor Atkinson has collected for the historical development of legionary *principia* and of civil *fora* in the western provinces. It should be pointed out, however, that the interesting little first-century forum at Velleia near Placenza, in northern Italy, does seem most relevant to the argument, and cannot be lightly dismissed because its resemblance to the *principia*-type ' is merely superficial '. Professor Atkinson's objection to the Velleia forum is that its main entrance is not opposite to the Basilica, and that the rooms on the side opposite to the Basilica are larger and apparently more elaborate than is customary in the Principia type. In point of fact, the exact nature of these rooms is by no means clear, as Antolini's reconstruction of them as ornate public buildings is quite fanciful.

[1] Atkinson, *Wroxeter*, p. 360. For the earlier theory, cf. Collingwood and Myres, ' Roman Britain and the English Settlements ', p. 93, note.

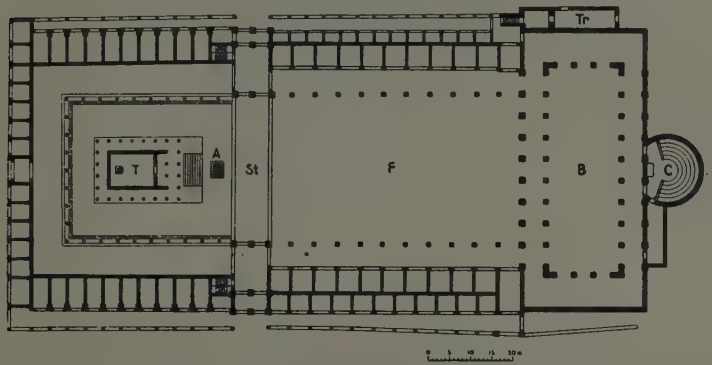
GALLO-ROMAN CIVIC CENTRES

KEY: B=Basilica; F=Forum; St=Street or arcade; T=Temple; A=Altar; x=monumental bases in Forum; y=bases of 'trophy' (St. Bertrand); z=altars and bases in Temple portico.



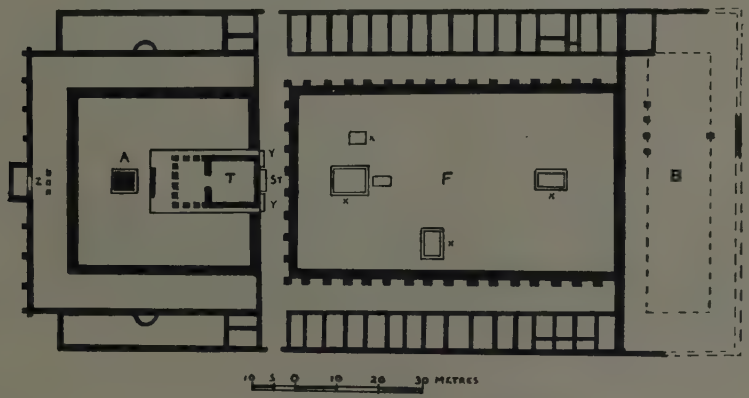
A. LUTETIA PARISIORUM (PARIS)

Foundation plan (partly restored), *after* F. de Pachtère, 'Paris a l'époque Gallo-Romaine', 1916, Plan III.



B. AUGUSTA RAURICA (AUGST)

Ground-floor plan, as restored by R. Laur-Belart, 'Führer durch Augusta Raurica' (1937) Plan I. The details of the Temple peristyle are largely conjectural, and the whole structure is shown in its later form, with a square-ended basilica (succeeding an apsed one) and with later shops around the Temple precinct.



C. LUGDUNUM CONVENARUM (ST. BERTRAND)

Foundation plan (partly restored), *after* B. Sapene, 'Au Forum du Lugdunum Convenarum: Inscriptions' (1938) Planche I.

The central room designated as a ' Temple ' may in fact be the main entrance portico to the Forum. Until, therefore, further excavations are carried out at Velleia and the minor obscurities of the plan resolved, this Forum must remain ' a serious obstacle ' to Professor Atkinson's theory (2).

Before we can accept the British fora as adapted principia, we must assure ourselves that there is no more obvious line of development for the type ; and for this purpose we must consider the *fora* of the tribal centres in the Celtic provinces of Gaul. It has long been recognized that the closest analogies for Romano-British buildings are to be found in the provinces of Belgica, Aquitania, and Lugdunensis, and in the no less Celtic regions of the two Germaniae. It is in this Celtic region of the west that we find such familiar Romano-British items as the small country farmstead and the characteristic ' Romano-Celtic ' temple most closely paralleled ; and in this area we might expect to find analogies for the British fora.

As Dr Wheeler has already noted, the Gallic fora are ' imperfectly known ' and he was obliged, when seeking a parallel for the suggested Temple-Forum at Colchester, to go as far south as Arles in the province of Narbonensis (3). In the majority of Gallo-Roman tribal capitals the continuity of occupation throughout the Middle Ages has effectively obliterated the Roman public buildings, but there are, happily, a few sites more informative in this respect—and it does seem that we can recognize the type of forum with which Gallic towns of medium importance were equipped.

Let us first consider *Lugdunum Convenarum*, colonia and capital of the Convenae, situated at the foot of the Pyrenees not far from Toulouse, in the province of Aquitania (later Novempopulana). This site, the acropolis of which is to-day occupied by St. Bertrand de Comminges, has been extensively excavated between 1920 and the beginning of the last war, and the plans of many private and public buildings are known—though it is to be regretted that the historical development of these buildings has not been worked out in the necessary detail (4).

The Forum of Lugdunum is among the excavated buildings, and whilst the details of the Basilica are a little obscure, the general outlines of the structure are perfectly clear despite complications caused by an earlier Forum beneath the existing one, and by late Roman alterations and additions. The whole Forum block, 165 m. by 80 m., is a single structural entity, though it is divided into two unequal rectangles. The larger of these rectangles contains the Forum and Basilica laid out on the lines familiar in Roman Britain, except that there is no row of shops opposite the Basilica, but merely a single colonnade which fronts the transverse street. The smaller rectangle contains a podium temple of classical

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[2] Antolini's work—*Le Ruine di Veleia misurate e disegnata* (Milan, 1819–22) is far from satisfactory. The original excavation reports which exist in manuscript are discussed by Salvatore Aurigemma in *Velleia* (Itinerari dei Musei e Monumenti d'Italia no. 73), Rome, 1940. It should be noted that the various plans are inconsistent, and the ruins themselves somewhat arbitrarily restored.

[3] R. E. M. Wheeler and P. Laver ' Roman Colchester ', *Journ. Rom. Stud.* IX, 148, 1919.

[4] Four excavation reports have been published by the Commission des Fouilles de Saint-Bertrand de Comminges, and a number of articles have appeared in the *Memoires de la Société Archéologique du Midi de la France*. The reports are as follows : (I) 1920–29, by P. Lavedan, R. Lizop and B. Sapene. (II) 1929–30. (III) 1931 and (IV) 1932 (quoted as *St. Bertrand* (I), (II), (III) and (IV). The only article relevant to the present discussion is B. Sapene, ' *Au Forum de Lugdunum Convenarum : Inscriptions du début du Regne de Trajan a l'entrée sud-est du Portique du Temple* ' (Toulouse, 1938, reprinted from *Memoires de la Soc. Arch. du Midi* Tome XIX). This is quoted as Sapene, *Inscriptions* hereafter.

type surrounded by an elevated colonnade forming part of a covered portico. The Temple backs onto the transverse streets, and is fronted by a large altar (FIG., C).

It is important to note that these two rectangular blocks, though separated by a street or arcade, form a single architectural unit : the outer walls of their longer axes are continuous and interrupted only by a gateway 3 metres wide where the street enters and leaves the Forum. It appears, in fact, from the existence of a massive stone sill beneath the gateway, that vehicular traffic could not enter the Forum area, which was reserved presumably for pedestrians, and could be closed up when required (5).

Moreover the religious character of the temple is abundantly clear from the sculptural and epigraphic remains found in and around it. On the back of the podium, fronting the ' street ' were three elaborate groups of sculpture, embodying captives, winged victories, and cuirassed imperial figures : in the portico giving access to the temple enclosure were three bases with inscribed facings of marble dedicated to Trajan, to Plotina—his consort—and to a certain Caius Julius Serenus, ' III Vir, Sacerdos Romae et Aug '. Additional fragmentary inscriptions refer to other holders of the office ' Sacerdos Romae et Aug '. Though the exact dedication of the temple is unknown, its municipal character and connexion with the Imperial Cult is evident ; so that its construction as part of the civic centre of the town is easily explained (6).

Lugdunum Convenarum was not a city of major importance : it was, it is true a colonia but it never became the capital of the later province of Novempopulana. It is in fact a typical Gallo-Roman tribal ' chef-lieu ', corresponding in function and influence to Silchester or Wroxeter. Even if there were no parallels for the striking arrangement of Basilica, Forum and Temple in one central block, it would be difficult to explain this arrangement as a local contribution to town-planning.

Yet there are parallels—and of a remarkably close nature, First, there is Augusta Raurica, a similar town—also enjoying colonial status, despite its origin as chief-lieu of the Raurici—in Germania Superior. Here we find a central block laid out in precisely the same fashion as at Lugdunum Convenarum, Professor Atkinson mentions the Forum of Augusta and reproduces its plan ; but the plan reproduced is the imperfect one from Stahelin's ' Die Schweiz in Romerzeit ' (7).

The Augst Forum was excavated between 1923 and 1928 and the fullest available description, illustrated with detailed plans and drawings is in Laur-Belart's ' Führer durch Augusta Raurica ' (Basle, 1937). A brief glimpse at these plans is sufficient to show that we have at Augst a Forum not merely similar to that of St. Bertrand, but virtually identical with it. Again we have the large block comprising Basilica, Forum and Temple, divided into two parts by an avenue probably covered forming a continuation of one of the city streets ; and again the signs—in the form of bases partly blocking this avenue—that it was reserved for pedestrians (8) (FIG., B).

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[5] That this street or arcade was roofed is shown clearly by the portico bases on the east side of the Forum. For details see plate I in *St. Bertrand*, III.

[6] Sapene, *Inscriptions*, passim. Although we know most about the ' Ara Romae et Augusti ' at Lyons, little evidence has hitherto been collected on the subject of the Imperial Cult within the towns themselves. There must surely have been a local order of ' Sacerdos Romae et Augusti ' in addition to the high-priest who officiated at the Lyons altar.

[7] Atkinson, *Wroxeter*, p. 349 ; plate 71, no. 15.

[8] It is possible that this street was not covered at Augst, if we accept Laur-Belart's reconstruction (*Führer durch Augusta Raurica*, plan I). The tribal name of the city was probably in the genitive, e.g. Rauricum or Rauricorum, but I use here the more familiar, if less correct, form Raurica.

There are, of course, minor differences such as one would expect on sites so far apart. At Augst the shops bordering the Forum form a double line, and not a single one as at St. Bertrand. Moreover these shops were continued (probably at a later period) along all three sides of the Temple enclosure whereas at St. Bertrand only a few late buildings were found built up against the Temple precinct wall. A more significant difference is the fact that the Augst temple fronts the transverse ' street ', and was entered from it, whilst at St. Bertrand the temple had its back turned to the Forum and Basilica.

This change is clearly connected with orientation, for both temples have their entrances to the east, as was the general practice with pagan shrines. Owing to the existence of an earlier Forum (and perhaps Basilica) at St. Bertrand, the site for the Temple was dictated by existing features, and its essential eastern outlook could only be obtained at the cost of making it face away from the Forum. This left the bare back wall of the podium fronting the street line, an architectural misfortune compensated for, to some extent, by the erection of the ' trophies ' against this wall.

It need hardly be doubted that the Augst plan is the more orthodox, with the Temple entrance facing the Forum and Basilica, so that the visitor entering the civic centre had an unobstructed view of all the architectural features of this extremely praiseworthy lay-out. As Laur-Belart justly remarks ' Die Aufreihung von Tempel, Forum, Basilica und Curia hat nichts Monotones, nichts Langweiliges an sich ' (**9**). The architect at St. Bertrand may well have regretted that religious conventions were allowed to interfere with the unity of the building.

Despite these modifications, the agreement in general lay-out at Augst and St. Bertrand is too obvious to need further comment. The Temple is not an ' independent ' complex on the opposite side of a broad street, as Professor Atkinson would have us believe (**10**). It is an essential part of the plan of the civic centre. Moreover, we may begin to suspect that we have in this type of building the normal Forum complex provided for medium-sized Gallo-Roman towns.

This suspicion needs final confirmation from a third site ; if possible from a site situated in central or northern France, and one which never attained colonial status. This quest is not an easy one as the majority of Gallo-Roman cities have had so vigorous a medieval history that their Roman public buildings have been obliterated. At Perigueux (Vesunna Petruciorum) we do find traces of a Basilica with what appears a Forum area on each side of it, and we may suspect that one of these enclosures contained a municipal temple dedicated to official cults (**11**). Yet the proximity of the great Romano-Celtic temple of the tutelar goddess Vesunna may have caused a modification of the standard plans in this city.

Again, at Alesia, the excavated Forum (discussed briefly by Professor Atkinson) shows the same features on a small scale, with what appears a Temple precinct on one side of the Basilica, and an open place on the other. Toutain (**12**) was fully justified in seeing in this plan a local imitation of the great Forum of Trajan at Rome ; but Alesia was a small town, and the detailed arrangements of the Forum are not sufficiently close to those at St. Bertrand and Augst for us to accept it as our desired analogy.

Surprisingly enough it is Paris—the most built-up of all Gallo-Roman cities—which provides the final link in the chain of evidence. Thanks to the extensive rebuilding schemes carried out in the 19th century, abundant traces have been found of a large

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[9] Laur-Belart, op. cit. p. 64. [10] Atkinson, loc. cit.

[11] Durand, *Fouilles de Vesone*, 1912–13, p. 64. [12] Atkinson, op. cit. p. 352, plate 71, no. 18.

Roman building which is clearly the Forum of *Lutetia Parisiorum*. This is the mysterious 'Edifice de la Rue Soufflot', substantial remains of which were recorded by Vacquer from 1847 onwards, and have been described and fitted into a comprehensive if imaginative plan by De Pachtere (**13**) (FIG., A).

The nature of the Rue Soufflot building, long shrouded in obscurity, becomes obvious when we compare its plan with those of the St. Bertrand and Augst *fora*. Despite the destruction of many parts of the structure, the main features are there: an aisled basilica on the east, an open Forum surrounded by shops, the line of the transverse 'street' marked by a drain, and the relatively well-preserved Temple compound with its massive podium and surrounding portico, backed by shops. It is in fact a replica of the Augst forum. Moreover an uninscribed altar was found in the same position as the inscribed bases at St. Bertrand.

Although exact similarity of dimensions is not to be expected, a comparison of certain measurements is instructive:—

	Augst	*St. Bertrand*	*Paris*
Overall dimensions of Forum block (incl. Temple) ..	143 m. × 63 m.	165 m. × 80 m.	165 m. × 85 m.
Temple podium	26 m. × 15 m.	24 m. × 14 m.	? × 14 m.

The general proportions of the Fora are the same on all three sites, but whereas the St. Bertrand and Paris blocks are identical in area, that at Augst is a little smaller. This might seem strange considerating that Augusta Raurica is the most important of the three towns; but it is easily explained by the nature of the Augst site, where the Basilica is on the edge of a deep valley. We may assume that the normal overall dimensions, as used at St. Bertrand and Paris were scaled down to fit the local conditions at Augst, the Temple dimensions being retained as they stood.

Such similarity of plan and dimensions might suggest a common date for all three structures. This is probable enough, but cannot be proved, owing to the uncertainty of the dating evidence. At St. Bertrand the Temple compound belongs to the period of Trajan (*circ.* A.D. 100) as is shown both by the inscribed pedestals in its precinct, and by a coin of that emperor sealed in constructional debris (**14**). We may assume that the Forum, which replaced an earlier one, is of the same period.

Dating evidence for the Augst forum is less secure. An inscription of A.D. 145 from the Temple provides a *terminus ante quem*, and the excavators have argued from constructional details that the whole building belongs to the middle of the 2nd century. It is by no means impossible that the block was first planned at an earlier date—perhaps in the Trajanic period—and not completed for a considerable period. Similarly at Paris, the only evidence is that the latest coin sealed beneath the Forum levels is of A.D. 66; and there is no record of the coins found in the earliest levels of the Forum itself.

All that we can safely say is that this type of Forum was already being erected in at least one Gallic town about A.D. 100: it may belong to the Flavian period, and it may have continued to be built throughout the second century.

Despite the uncertainty of date we have surely in these three Gallic fora, found on sites considerably distant from one another, clear evidence of the adoption of a certain

[13] De Pachtère, *Paris a l'Époque Gallo-Romaine*, plan.

[14] Sapene, *Inscriptions*, p. 26. M. Sapene states 'J'ai toujours attributé aux diverses couches archéologiques que je rencontre au cours de travaux, une importance de tout premier ordre' (p. 31, note 1). Whilst welcoming this acknowledgment of the importance of stratification one may well lament that it did not occur earlier in the course of the excavations.

type of civic centre to suit the needs of the normal Gallo-Roman city. It is not one of the ' three main types ' listed by Professor Atkinson (15) as prevalent in the western empire although it includes the elements of his Type (*b*)—' A simple peristyled court enclosing a free-standing temple '—attached to his ' Principia-type ' Forum.

How far the fora of Roman Britain differed from those of Italy, Narbonensis, and the other Mediterranean provinces may be interesting academically, but the differences are not likely to add much to our knowledge of Roman Britain. Where we may expect to find significant features is in the differences between the British fora and those of Celtic Gaul, erected only a little earlier and for the use of very similar communities.

Professor Atkinson, having shorn the Augst civic centre of its Temple, attributes it to the so-called Principia-type of Forum, erected in areas where civilian development was backward and military influence strong. Is he prepared to do the same with the two similar buildings at St. Bertrand and Paris ? Such an explanation is clearly untenable once we accept, as we must, the Temple as an essential part of the Forum itself ; and it is highly improbable that military influence was strong in the quiet corner of the Pyrenees where Lugdunum Convenarum lay.

Yet once we acknowledge that the Gallic type of Forum, as represented on these three sites, is an essentially civilian conception, we may well doubt whether the British fora, even though they have no classical temples embodied in them (16) have any claim to be considered as direct descendants of the military principia.

We can only guess how the British fora came to be built, but it is evident that their plans were prepared for the local *civitates* by persons well experienced in town-planning problems ; they are not likely to be the creation of local architects. We may therefore agree with Professor Atkinson in supposing that the plans were prepared through the medium of the central government.

The government's most recent and most relevant experience in town-planning problems was in dealing with the *civitates* of Celtic Gaul, where—as we have seen—lavish civic centres were being erected at the beginning of the 2nd century. It would be surprising if the architects entrusted with the re-planning of British cities did not turn to their Gallic records for information and did not consider the applicability of the typical Gallic forum to the cities of Britain.

The one feature of these Gallic fora which was not applicable to Britain was the Temple precinct, for excavations on British sites have already provided evidence (negative it is true) that the classical temple was not normally allowed to enter the Romano-British cities. Why this should have been the case we may perhaps guess from the course of the Boudiccan revolt : it was, as Tacitus tells us (17), the Temple of Claudius at Camulodunum which was singled out as the ' arx aeternae dominationis ' by the British rebels. Though their grievances were largely economic, a certain religious fanaticism seems to have existed among Boudicca's followers.

Though the provincial *concilium* may well have been re-established after the quelling of the revolt, we have no record of its existence apart from one fragmentary inscription (18)

[15] Atkinson, op. cit., p. 348.

[16] The exceptions to this rule, at Colchester, Verulamium and perhaps Lincoln, require further investigation.

[17] Tacitus, *Annales*, XIV, 31.

[18] See Collingwood and Myres, op. cit., p. 169. The existence of a provincial *concilium* in Britain, if we accept Haverfield's interpretation of the London inscription, need not imply necessarily that the local civitates paid much attention to official religion and the imperial cult. Professor Last has already pointed out the weakness of the ' easy conjecture ' that the Concilia were expressly formed for the observance of the imperial cult. (*Cambridge Ancient History*, XI, 472)

and no evidence that the imperial cult played any part in the life of the tribal *civitates*. It is not insignificant that the only evidence, scanty as it is, of temples of classical type being attached to British fora has come from Colchester, Verulamium and perhaps Lincoln (**19**), towns which were by virtue of their municipal or colonial status less likely to be antagonistic to official religion.

In these circumstances, with the memory of Boudicca's revolt still haunting the administration we may well understand that the Gallic fora plans were unacceptable, as they stood, for use in Britain. No one would want the responsibility of erecting a potential ' arx aeternae dominationis ' in every tribal town. Yet it was easy to modify the Gallic plans so as to avoid injuring any religious susceptibilities. Remove the Temple and its precinct, add a row of shops to the open side of the Forum, opposite the basilica, and you have in effect the fora of Wroxeter, Silchester, Caerwent and Caistor.

It is possible that Professor Atkinson is right in seeing traces of military influence in the British fora ; for the Gallic fora may themselves have been based on advance plans of the Forum of Trajan at Rome. And the latter may well, as Rodenwaldt suggested, have incorporated elements derived from military architecture. The suggested development outlined above does not necessarily involve dismissing the similarity between the British *fora* and the military *principia* as an accident : both are perhaps descended from the same common ancestor.

Possibly the influence of the Forum of Trajan was the determining factor in the adoption of the Basilica-Forum-Temple complex in Celtic Gaul, although the Forum of Velleia suggests that the basic type had come into use on civilian sites at an earlier date (**20**). Until the fora of the western empire are better known, no analysis of their origins can be complete ; but it seems at least probable that in Britain the deciding factor was not the strength of military influence and the weakness of civilian development, but the existence in Gaul of a forum type which could easily be modified to meet Romano-British requirements. We may justly absolve the ' Civitas Cornoviorum ' from the suspicion of having erected in the centre of its capital a military headquarters disguised as a civic centre.

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[19] I include Lincoln here because the line of the eastern Forum colonnade has been found to continue south of the main cross-street, suggesting that the Forum consisted of two enclosures. (See *Archaeologia*, LIII, pl. XVIII). It is to be hoped that further discoveries may solve the problems of the Lincoln forum, of which the ' Mint Wall ' presumably forms part of the Basilica.

[20] There may be a classical temple attached to the forum at Velleia, for the imperfect plan of Antolini (op. cit.) shows a rectangular building, fronted by what appears to be an altar, on the north side of the building.

The Beginning of History: a film*

by Jacquetta Hawkes

IT was early in 1944 that the production of a film on British prehistory was agreed upon at the Ministry of Education. It may be that war conditions made it easier to get this unorthodox project adopted—the attention of a possible opposition was distracted. Nevertheless it is remarkable that in the middle of a war two Government departments (the Ministry of Information is the producing agency) should undertake a work apparently so unpractical and so little urgent. It would have been interesting to be present in the Admiralty office in the then very strictly prohibited area of the Orkneys when the request came through for a permit for a film director to visit the island's prehistoric monuments. He was permitted. If there is a racial generalization which has some truth, it is that the English are a tolerant people.

This film has not, of course, been produced in isolation. It is part of an experimental programme now being sponsored by the Ministry of Education, modest in scale but revolutionary in its implications. In our militantly decentralized system of education, the Board, or Ministry, has never before produced text-books or any equivalent form of educational material. It has, however, been recognized that the high cost of film production, and the very limited number of skilled producers, warrants some form of assistance from the centre, and so the Ministry has taken, cautiously, this plunge.

In the present programme several other chosen subjects deal with aspects of human development—for instance with the origins of writing and alphabets and the development of printing, the evolution of the domestic house, the exploration of our globe. Thus, although their integration is not at all close, these films do form a loose nexus illustrating the development of culture and the continuity of human history.

Commissions for the production of films are allocated through the Ministry of Information to individual producing units, mostly of the documentary type and all of them privately managed with the exception of the largest, the Crown Film Unit, which is a possession of the State. It was to the Crown Unit that the production of the 'Beginning of History' was allocated.

The chief criticism of prehistory as the subject matter for a film (if we ignore the view that it is anyhow totally unimportant) was that it must be too static, that it could be presented equally effectively and far more cheaply through the media of lantern slides and words. There was justification for this criticism, which was felt by practical film-producers as well as by such educationists as were capable of formulating it. Nevertheless it has, we hope, been confounded, and in the confounding it has been shown that subjects static in themselves can provide the content for moving pictures

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*The writer is much indebted to the director of the film, Mr Graham Wallace, who supplied full notes on his approach to the problems of this production, and his experiences while it was in progress. Dr Gerhard Bersu kindly prepared a note on the Little Woodbury reconstruction.

by the combination of two means, one intellectual and one visual. The intellectual necessity is that the film should be given energy and movement by the dramatic development of a theme, in this instance the cumulative drama of the development of civilization in general, and of British history in particular. With such a theme as a propulsive force, a further sense of movement can be given visually by the handling of the ciné camera. The lens slides down the walls of Cheddar Gorge and penetrates its caves to find the home of palaeolithic man, it twists along a Skara Brae alley-way and ranges across one of the houses, it explores every corner of the Little Woodbury farmstead. In the present film these two means to create movement are again re-inforced by the inclusion of animated maps and diagrams, and demonstrations of various technical processes—flint-knapping, hoeing, reaping and grinding, bronze-founding and the like. Certainly in the upshot we believe that, although it may be too ambitious, overcrowded with matter, an immediate sense of movement seldom flags through all the 45 minutes of this film.

Now, as to content. It was early decided not to attempt the introduction of any human figures, any dressed-up actors. In part this was an admission of ignorance. What prehistorian would care to advise an Art Director how to dress the shepherds of Windmill Hill or even the owner of Little Woodbury? But more than this, some of us believe that the reproduction of past life can never be satisfactory unless it is either in some way stylized—by the use of puppets or cartoons for example—or is conveyed through the medium of a work of art: that is to say when it is Mr Olivier the potent instrument of Shakespeare, not Mr Olivier trying to look like Henry v. One of the most conscientious attempts made recently to convey the past through the ordinary photographic film, the G.B.I. series 'Life 2000 years ago', to the writer's mind only demonstrates this difficulty. It is very competent, and probably life in Palestine at the time of Christ was not too unlike that; yet all the time the audience is conscious of people acting, of unreality—there is no illusion and no creation.

Whatever opinion is held on this very controversial matter, in the particular instance of the 'Beginning of History' our lack of exact knowledge of costume and habits of life was quite a sufficient deterrent. There is nothing which more nakedly reveals our ignorance than an attempt at the visual presentation of prehistory with its inevitable exposure of all those wide blank spaces which words can conceal or evade.

It was agreed therefore to build up the dramatic theme by the combined use of various types of material which did not demand the appearance of human beings: field monuments, museum specimens, animated maps and diagrams, simple reconstructions needed for the demonstration of techniques, and one really ambitious reconstruction—the life size model of the Iron Age farm of Little Woodbury.

This general scheme having been adopted, the Director set out on a tour of visits to all the major monuments, and the leading archaeologists, of England, Wales, Scotland and the Isle of Man. He examined the monuments to see which were the most suitable for filming and to note in advance any special provisions which would have to be made—for instance, lights for the interior of Hetty Pegler's Tump, reflectors for the dark corners of Skara Brae, and a high platform to secure a bird's eye view of Chysauster. Some of them he had to disapprove as being too much ravaged by their modern surroundings, but the archaeologists without exception he was able to approve and returned claiming to have found them a delightful breed—a feeling which he would not have known had it not been reciprocated.

The following table shows the length of time given to the various parts of the work,

although the final stage of all, detailed touches necessary before the production of a ' show copy ', has been very much protracted.

1.	Preliminary discussion and ' research '	3 months
2.	Scripting	1 month
3.	Preparations for production	1 month
4.	Shooting	4 months
5.	Editing and completing the film	1½ months

Some account can now be given of the material included in the film, but only the more significant can be mentioned, for a really enormous number of separate shots have gone into ' The Beginning of History '.

To deal first with the out-of-door shots, it is perhaps permissible to record that in the introductory passage, Nicolas Hawkes sharpening a piece of wood while visiting animals in the Zoo, typifies *homo sapiens* the tool-maker, supreme among other species. The palaeolithic sequences include some remarkable interiors of the Cheddar caves to secure which harassing troubles were experienced with the lighting equipment, while a camera had to be dismantled and handed along in pieces in order to get it past a barrier of stalactites. To give the most vivid possible impression of a way of life characteristic of the New Stone Age (though not of course neolithic in absolute date) a great length of film was devoted to the Skara Brae village. It is approached by a lovely shot of the curving line of the bay of Skail, where gulls drifting across the camera's field of vision give some idea of the wonderful bird life of the Orkneys. Here at Skara Brae a few simple demonstrations were staged. One of the supposed limpet boxes was caulked, filled with water, and furnished with limpets and winkles, some dug from the actual prehistoric middens, some brought alive from the shore.

Then again substances simulating fish-bones were pounded in a big mortar, and the securing of a stone slab door by a bar worked through a slot from an unseen cell in the thickness of the wall was carefully demonstrated. By great good luck the crew of a naval helicopter, becoming interested in the activities, and took the camera man up to get some useful aerial views of the village.

For the Bronze Age, the field monument to receive the most thorough treatment was Avebury, for in addition to many shots taken on the spot, the restored plan is displayed by a model, impressionistic but attractive, which includes the whole length of the Avenue and the Sanctuary as well as the great circle itself. Stonehenge is also included, and the mortice and tenon construction successfully shown ; great trouble was taken to wait for ideal conditions of light for photographing those most difficult and unrewarding subjects—round barrows. Equally it was found that Maiden Castle could only be filmed satisfactorily at dawn or near sunset when the ditches were filled with shadows. Hill-forts in stone country were not neglected, while the Iron Age site to be allowed the greatest footage was the fully excavated and well preserved broch on the Orkney island of Rousay. In this broch, which stands within reach of the waves, the camera passes the outer ramparts, surveys the sheltering village of little slab-built huts, explores the central tower with its guardroom and winding staircase and even plunges down into the darkness of the souterrain. Recollection of the lovely stance of this broch with the sea lifting round its rock platform, reminds one to say that in very many open-air shots brilliant photography has captured the essence of the surrounding countryside, of the Wessex Downs, the limestone edge of the Cotswolds above the Severn, of the bare Cornish moorland, equally with the remote and subdued beauties of these northern *isla*nds.

Animated maps and diagrams, which are sure to provoke criticism for their over-simplification, illustrate the advances and retreats of the pleistocene ice-sheets, the spread of neolithic cultures, the Beaker invasion and Bronze Age settlement of Britain and the distribution of metal ores. For convenience in use in schools the film is divided into three parts, and at these divisions, and elsewhere between periods, a diagram is inserted to indicate the time scale. An animated model reproduces the final isolation of Britain from the continent, while that showing the plan of the Avebury complex has already been described.

Museum shots are relatively few, and perhaps the least successful part of the film. War conditions made it difficult to gain access to any material, while for famous treasures like the Witham shield, irretrievably in the grip of A.R.P., the film makers had to be content with photographing photographs. Nevertheless pains were taken to secure the best possible results in this museum work. A display table with a series of coloured backgrounds of different tone and colour values was specially designed, and many experiments were made with lighting of such delicate and elusive subjects as fine flint-work and surface engraving on gold. Again the value of some objects, as for example the Tors chamfrein, is certainly enchanced by the movement of the camera round them.

The demonstrations of techniques are on the whole outstandingly successful; in none of them is more than a hand and foreman (generally in fact attached to the person of the Director) allowed to appear. The first (demonstrated by Mr A. D. Lacaille) shows the chipping of a hand-axe; then there is an agricultural sequence, carried out with advice from Dr Cecil Curwen, which includes tilling with a flint hoe, sowing, and reaping with both straight and crescentic flint sickles, followed by corn milling with a simple grain rubber and with a saddle quern. To illustrate some simple metallurgical processes a bronze founder's workshop was constructed in the studio complete with moulds, furnaces, and large tubular bellows. The crucible was most efficiently manipulated with a bent green stick, and old type-metal, with its much lower melting point, provided a manageable but still convincing substitute for bronze. In this scene the strict chronological sequence was broken in the interest of technology, in order to show both the single mould casting of a flat axe and the bivalvular method needed for a palstave.

Finally we come to the most ambitious, costly, and successful undertaking of the whole film, the full scale reproduction of the Iron Age farmstead of Little Woodbury near Salisbury, the site of which was excavated by Dr Bersu immediately before the war. To obtain the best possible authority the Director and his Art director went to the Isle of Man to confer with Dr Bersu, and to decide with him the whole architectural design from the largest problems of construction to the smallest details. The main features of the plan of the farmhouse, with its entrance porch, circular wall of posts and massive timber framework round the central hearth, were well established, but the design of much of the superstructure depended upon the character of the roof. At the time of excavation Dr Bersu had inclined to the belief that this was thatched, but subsequent evidence gained in the Isle of Man convinced him that the covering had been of turf. For better or worse, therefore, turf was used in the reconstruction and the roof was made as a low dome running with little break into the earth-piled walls. A woven chimney-hood was hung above the fire between the four massive central uprights to guide smoke out through a vent in the middle of the roof.

Another important decision which had to be taken was the degree of primitiveness or sophistication which was to be allowed in the building. While theoretically it was accepted that the carpenters' work may well have been highly finished and perhaps

even richly ornate, it was felt that to recreate this wholly from the imagination was hardly justifiable, and that it was safer to build with a non-committal simplicity. The large farmstead that went up in a meadow in the grounds of the Pinewood Studios at Iver was, therefore, of rude appearance, with a framework of unshaped logs and no architectural pretensions whatever.

What perhaps seemed exceptional to the designers of this film-set was the degree of reality achieved in the reconstruction : they were allowed no mere façades, none of the usual studio fakes—the farm was there entire and in the round. But what on the other hand most impressed the archaeologists who saw it was the sense of illusion which the Art Director had cast over it. Where one of themselves would probably have made only an accurate replica of the construction, he had created the atmosphere of a house which had known the passage of generations of primitive lives. It appeared to be worn smooth, endlessly smoked, crowded with the long accumulation of possessions, thick with the breath of the cooking pot. There was nothing of the hygienic unreality of the usual museum model. There were in fact a few well-concealed deceits ; the four tree-trunks framing the hearth were iron girders cased in plaster, while the fat cauldron which simmered continuously over the fire fell to pieces during the shooting and so revealed that its seeming sheet bronze was in truth also of plaster.

While most thought and labour were devoted to the farm house, the yard outside was not neglected ; it had storage-pits for grain and water, granaries, corn-drying frames and poles for hay, an oven for parching grain. To add life to the scene (the entire family was assumed to be at work in the fields) a few animals were introduced : attractive goats, Soay sheep and a sheep-dog, and some New Forest ponies which had unfortunately been rather too well groomed. During the course of the shooting it was amusing to watch hard-boiled and urban film-hands put in charge of these unsympathetic animals. Two or three of the sheep escaped into the neighbouring cornfields and were not seen again.

With Little Woodbury and its suggestion of an aspect of British life which survived to be cut short by the Romans, the film ends. Probably it has attempted far too much, but it has also achieved something. As it goes round the schools together with the photographic panels, the models and film-strips designed to amplify and strengthen its message, it can hardly fail to rouse some imaginations to a greater awareness of the fantastic wonder of human history.

It may be that the majority of children will not be roused, though we hope otherwise. But should it be so, it is not always only some 10 per cent who are the source of inspiration for the rest, and who matter not less, perhaps most of all, in this promised century of the Common Man ?

Horizontal Water-mills of the Faeroe Islands

by Kenneth Williamson

THE water-mill with the horizontal wheel remains a characteristic feature of peasant culture in several Faeroe settlements, but its remaining days of usefulness among the islands are doubtless numbered. Formerly, nearly all the villages appear to have maintained one or more such mills for the production of *rugmjøl*, the coarse brown flour made from the six-rowed barley (*Hordeum vulgare* Linn.), but in the majority of places these interesting structures have fallen into desuetude, or have vanished completely, within the last thirty or forty years.

There are two major reasons for their steady decline as an economic proposition. Firstly, the potato has widely increased its popularity since the beginning of the 19th century, and has now practically replaced the barley-crop throughout the islands ; and secondly, the increase in sea-traffic between the Faeroes and Denmark during the last half-century has encouraged the importation of flour. Villages which, within living memory, maintained several mills now support only one, or find it more convenient to employ hand-querns for grinding the little corn that is grown.

I cannot believe that the horizontal mill has a long history in the Faeroe Islands : if it has, then it must have been an exceedingly rare object until the 19th century. The mill is not mentioned in the work of Lucas Debes (1673) (1), and the first references appear to be those in the MSS. account of the Faeroes written by J. C. Svabo following his visit in 1781–2. According to the published extracts from this very thorough study of the life and manners of the people (2), most of the milling was done in hand-querns, a servant-girl being employed specifically for this task on the bigger farms. Svabo describes how, to lighten the drudgery, this woman sang hymns to the rhythm of the motion of the quern. At that time the ruins of old water-mills were to be seen at Eiði (North Eysturoy), Froðbøur (Suðuroy), and Kunoyarbygd (Kunoy). Nine extant mills were known to Svabo, including two which housed two querns. Four of these were owned by farmers and two by clergymen. Three of the mills, the oldest dating from 1740, were at Tórshavn, the capital, where there lived a builder of mills, one Johannes Poulsen.

The Rev. Jorgen Landt, who was resident in the Faeroes for a number of years at the end of the 18th century, and who showed a lively interest in the folk-culture, also gives the impression that the water-mills were just then coming into favour (3). There were about 20 in existence, and the number was increasing. His description of the mill and its mechanism is very complete and might well apply generally to the examples (some of fairly recent construction) to be found today.

Hr. Anton Degn, archivist of the Faeroe Amt, has assured me that none of the documents in his charge contain early references to water-mills. Hr. N. E. Nørlund's gazetteer of the islands (4) gives the place-name Myllá (' the stream of the mill ') on five

islands, *viz.* at Kunoyarbygd, near Húsum on Kallsoy, on Nólsoy and Hestur, and at Froðbøur in Suðuroy.*

The type of mechanism and the nomenclature of the parts point to a Norwegian origin—which, indeed, is what one would expect—although it is also possible that some Shetland influence exists, particularly in the large mill at Bøur on Vágar island. Faeroemen not infrequently sailed to Bergen, usually by the Shetlands, in their twelve-oared *seksáringar* during the 18th and 19th centuries.

Faeroe mills are usually small and nearly square wooden sheds, as was often the case in Landt's time : the walls are of planks, not logs as in the Norwegian mills. In some, especially the older, examples, two or even three of the walls are of undressed local basalt stones. The roof in both types consists of grassy sods laid on a thatch of *holgar* (small bundles of straw) or a layer of birch-bark (*nævir*) imported from Norway. This forms the characteristic *flag tak* construction of Faeroe peasant architecture. In recent buildings, however, the roof may be of wooden boards or corrugated iron sheets. The cellar or underhouse is always of stones and boulders, and is usually open at two sides to allow the stream unrestricted passage.

The shaft (*hvarnkallur* or *kventil*) is a narrow wooden cylinder three or four feet long, widening towards the base, and fastened to the centre of the upper millstone by a short iron rod (*spinnil*) which has a T-shaped piece or ' sile ' (*sigli*) at the top. The cavity at the centre of the lower stone, through which the spindle passes, is called *grótti*. The wheel (*mylnuspæl*) as a rule comprises eight flat boards, mortised into the lower part of the shaft between two iron bands, and turns in an anti-clockwise direction. In most of the cases I have examined the blades (*bløð*) are set vertically, but Landt mentions that they were often canted, the better to catch the force of the stream. The inflow from the stone-walled or earth-banked race (*renna*) is thrust against the blades by a narrow wooden trough (*rennustokkur*). The main stream is usually dammed immediately below the beginning of the race by a strong wooden board (*slúsa*) which can be raised or lowered as required by sliding it up or down grooves cut in the simple rectangular frame.

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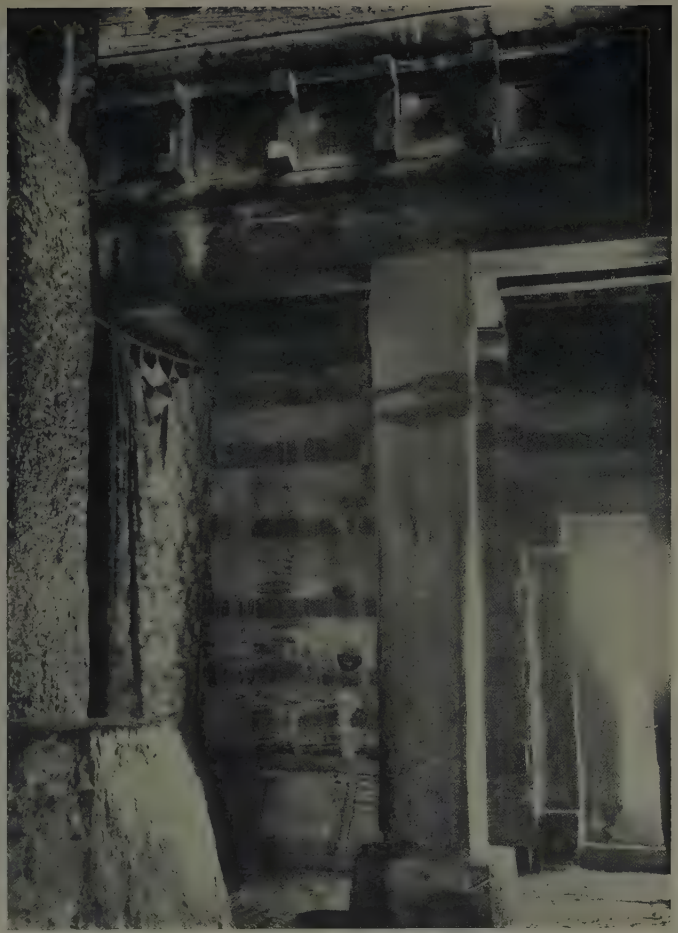
* There is a curious symbol, at first sight suggestive of a windmill, on the map of the Faeroes drawn by Johannes Mejer, probably between 1652–4 (and certainly before 1657), and I am at a loss to understand its meaning unless it indicates a water-mill. Nørlund, who has recently published this map (4), agrees that this is possible : there is no original key to the map, however, and on a map of Jutland by Mejer there is a *notarum explicatio* giving a symbol for water-mills which differs from that on the Faeroe map (*in litt.*, 12-12-45). There are 29 of these symbols, distributed as follows :—

Fugloy ; one at or near Hattarvík.
Svínoy : one at Svínoyarbygd.
Viðoy ; one at Viðareiði and one at Hvannasund.
Borðoy ; three (but Mejer appears to have got some Borðoy and Kallsoy place-names transposed).
Kunoy ; one at Kunoyarbygd (? on the stream Myllá).
Kallsoy ; one about the middle of the island.
Eysturoy ; one south of Eiði and two in the south of the island.
Streymoy ; one at Vestmanna and another in the north ; one near either Kollafjørður or Kaldbak ; one north of Norðradalur (? Skælingur) ; four in the Hoyvík-Tórshavn-Kirkjubøur area.
Vágar ; one at Miðvágur and another at Bøur.
Mykines ; one at Mykinesbygd.
Sandoy ; one at or near Sandur and another on the east coast at either Skálavík or Husavík.
Suðuroy ; one at Hvalbøur, one at Fámjin, and another at Sunnbøur.



A. DEBRA DAMO: NAVE AND S. AISLE SHOWING MONOLITHIC COLUMNS, WOODEN FRIEZE AND DOOR, AND CHARACTERISTIC WALL-STRUCTURE

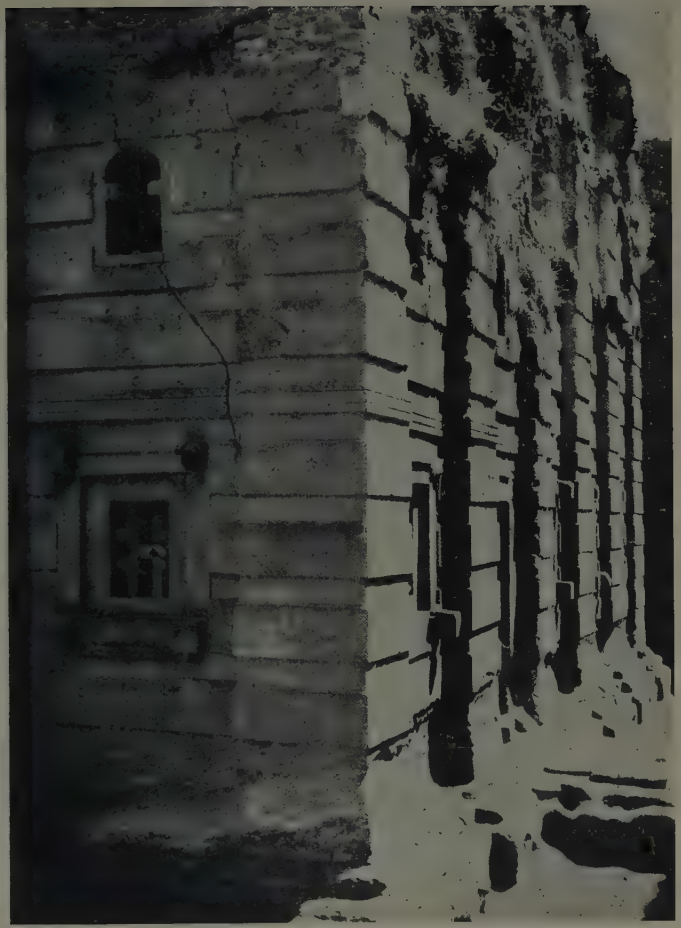
B. LALIBELA (EMMANUEL): LOOKING E., SHOWING STONE COPY OF WOODEN FRIEZE (AS AT D.D.), 'CHANCEL ARCH' AND PART OF DOME OVER SANCTUARY

PLATE I

facing p. 84 (for text see pp. 60–9)

A. IMRAHA: S. FACADE OF CHURCH BUILT IN CAVE; NOTE TYPICAL DOOR AND WINDOWS, AND WELL-PRESERVED ORIGINAL FINISH OF WALLS

B. SOKOTA: W. FRONT OF ROCK-HEWN CHURCH, SHOWING SAME TYPE OF DOOR- AND WINDOW-FRAMES REPRODUCED IN SOLID ROCK



A. LALIBELA (EMMANUEL): S.W. ANGLE OF ROCK-HEWN CHURCH
compare with PLATE II, A (Imraha)

B. LALIBELA (SAVIOUR): E. END WITH EXTERNAL COLONNADE

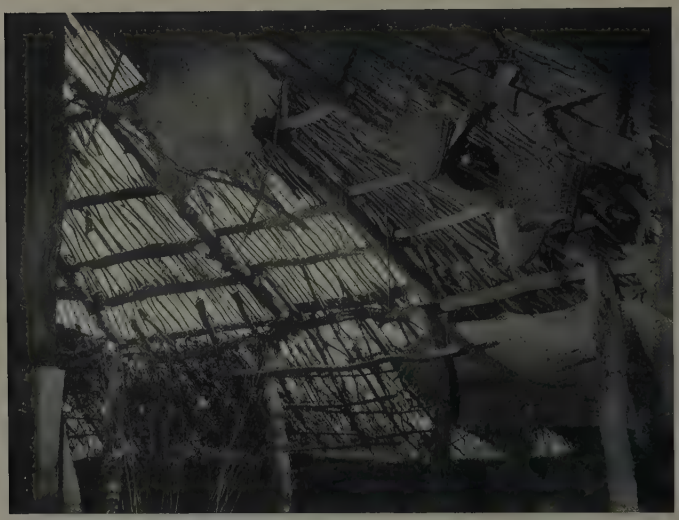
A. DEBRA DAMO: PART OF CARVED WOODEN CEILING IN THE NARTHEX

B. ARAMO, ERITREA: FRAGMENTS OF CARVED WOODEN ARCHES FROM AN OLD CHURCH, NOW DESTROYED

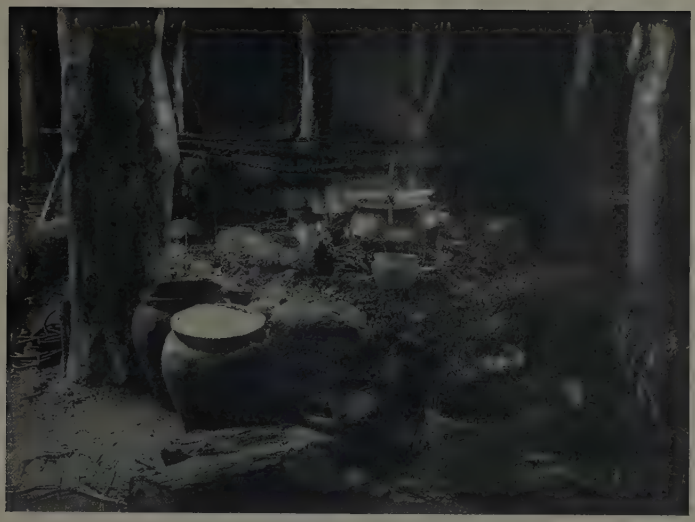
THE LITTLE WOODBURY FARMHOUSE: GENERAL VIEW FROM THE ENTRANCE

(for text see pp. 78–82)

LITTLE WOODBURY: MODEL OF THE FRAMEWORK



LITTLE WOODBURY, SHOWING A SECTION OF THE ROOF OPENED FOR VENTILATION AND LIGHT



LITTLE WOODBURY: THE CENTRAL HEARTHS

THE BRONZE FOUNDRY: CASTING A FLAT AXE

THE GEILAMILLA WHICH FORMERLY EXISTED AT TÓRSHAVN—A SPLENDID EXAMPLE OF THE WOODEN TYPE. NOTE THE SOD ROOF AND WOODEN *RENNUSTOKUR*

(for text see p. 88)

The iron gudgeon at the centre of the axle-base turns in an iron plate in the middle of a cross-beam below : this beam corresponds to the ' sole-tree ' of the Shetland and ' grundskida ' of the Norse mills, but I have not been able to discover its Faeroe name. At one end of this lever is a wooden ' lightening-tree ' (*lyftustongin*), rising vertically into the mill, where it terminates in a cross-piece or ' sword ' (*lættari*) which rests on the bench beside the grindstones. By raising or lowering the *lættari*, and packing wedges beneath the arms at the required height, it is possible to adjust the size of the aperture between the stones. The other end of the sole-tree is either embedded in the wall of the under-house, or is fixed to an upright beam which is itself fastened to the wall, and corresponds to the ' bolster-head ' of the Shetland mill.

The quern (*kvørn*) is mounted on a wooden bench (*lúður*), raised some 18 inches or 2 feet above the plank floor, and consists of upper (*yvirsteinur*) and nether (*undirsteinur*) millstones. The nether-stone has grooves chipped in the base which fit over pieces of wood nailed to the bench in such a way that the stone is held fast. The grinding-surface is not grooved, but the Faeroese recognize three distinct tracks, an inner one called *kornfarið* nearest the *grótti*, a middle track or *mellingi*, and an outer one called *fellingi*.

Corn is fed to the eye (*eyga*) of the quern from the spout of a ' shoe ', usually called *fótur*, but at Kvívík in Streymoy known as *svíni* because of a fancied resemblance in shape to the snout of a pig ! This is suspended, usually by string, from a hopper, which is itself supported loosely on a framework affixed to the ties of the roof. The hopper is sometimes called *trakt* (a Danish word, and heard only in Tórshavn) but more usually *korn kassin* or ' corn-box '.

Thus far the mechanism is in no way different from that of the Shetland and Hebridean mills described by Goudie (5), but the manner in which the grain is induced to fall from the spout of the shoe to the eye of the quern is distinct. In the north British mills a ' clapper ', usually a block of wood, but sometimes a stone, is tied to the shoe and allowed to trail on the revolving upper stone, so that its continuous vibration is imparted to the shoe, causing a steady flow of corn. The same principle is adopted in the Faeroes, with a different application. A long thin stick, attached to both hopper and shoe by wooden brackets, and with its lower end standing on the upper stone, takes the place of the clapper. This stick is variously called *rystari* (heard at Tórshavn and in Suðuroy), *stiltari* (Kvívík in Streymoy) and *dartari* (Skálavík in Sandoy), the name in each case being descriptive of the shaking or jumping motion. Hr. Karl Ervik, who remembered the form of several mills in South Brundal, near Åalesund, Norway, told me that an identical device was in use there, the stick being called ' skaketein '.

A brief list of the mills I have examined, with comments on those of special interest, is given, and the names and locations of former mills where these are known to me.

SUÐUROY. There were formerly three wooden mills at Fámjin on the west coast, each privately owned. One stood on Kirkjuá, a stream by the church, and two on a larger stream, Áin Miklá, south of the village.

Froðbøur, on the east coast almost opposite to Fámjin, formerly had about the biggest corn output of any Faeroe settlement, and it is not surprising that there were no less than 5 mills, 50 years ago. Kristianhús and Oman Tun stood about thirty metres apart on the same stream behind the upper section of the village, Hamar, and there was a third, called Laðnum, in this area. A fourth, Millufossur, stood below a waterfall of the same name in the outfield between Froðbøur and the nearby fishing-port of Tvøroyri. Only one remains, at the farm Niðri á bø on the coast below the Hamar.

This is a beautiful example said to be about 250 years old, and it is in perfect condition and was used as recently as 1939. It belongs to the farm, but any of the villagers

may arrange to use it, without payment of a fee. The side walls are splendid examples of the old Faeroe ' double-walling ', consisting of two faces of rough basalt stones with a rubble filling between, and tapering from 80–90 cms. at the ground level to 30–40 cms. at the eaves. The end walls are of wooden planks, the upper one containing the door : there is a good *flag* roof with a *holgar* thatch beneath. The interior measurements are : length, 2 metres (floor 75 cms., bench 1 m. 25 cms.), width 1 m. 40 cms. ; height to gable 2 metres, height of corner-posts 1 m. 40 cms.; couples at 96 cms. and 1 m. 82 cms. from the door, each 10 cms. wide ; door 1 m. 40 cms. by 65 cms. ; height of bench 25 cms. There is a wooden slide at the front of the hopper for regulating the flow of corn into the ' shoe ', which is attached by a wooden bracket and pins. The *rýstari* is weighted with stones. See FIG. 1.

SANDOY. Two rather recent wooden mills stand on twin streams at i Troðum, on the east shore of Sandsvatn : they are privately owned but are available to other farmers. At Skálavík, on the east coast of the island, there were formerly two mills, Dalsgaarðsmilla and Stovumilla, the latter owned by the farm Stórugarður and having two querns driven by separate wheels.

FUGLOY. There are, or were, two mills at Kirkjá, the chief settlement on this island.

KUNOY. The name of the main stream running through Kunoyarbygd—Myllá—suggests that this village has had one or more mills for many years. The now-vanished Stóramilla was owned by six men, each of whom had his special day of the week for using it. The present wooden mill appears to be fairly recent : a ratchet and pawl device takes the place of the turning-pin, as at Saltangará (see below).

EYSTUROY. A horizontal mill is still in use south of Eiði, in the north of the island.

The only mills I have seen are two at Saltangará, on the coast of Skálafjørður. One is a wooden building faced with corrugated iron sheets, whilst in the other the iron sheets are merely nailed to a wooden framework. Both structures have good *flag* roofs in the old style. Several dates are carved on the central beams of these mills : in the upper (which is now gutted) the earliest is 1905 and the latest 1942, and in the lower, which was working when I saw it in 1943, the first date is 1894. This mill is privately owned, but is lent without fee.

A plan of the lower mill is given in FIG. 2. A point of interest is the ingenious device for raising or depressing the angle of the shoe, a rod with a ratchet and pawl, all of wood, fixed to the inside of the central beam. This device also occurs at Kunoyarbygd. Height of bench 30 cms., diameter of quern 68 cms. A deep and narrow flour-bin stood on the floor against the bench to receive meal swept off the *lúður* with the *søbil*, a miller's brush made of two goose-wings sewn together. I was also shown a sieve or *sold*, a rectangular wooden box with a piece of the stomach-skin of the Caaing Whale, in which small holes have been punched, stretched taut across the base. It measured 44×22×11 cms., and was used for the final sifting of the meal.

STREYMOY. There was formerly a fine wooden mill at Saksun, in use up to about the time of the first world war. Petur á Heygum informs me that three mills were working at Vestmanna 40 years ago : 2 stood on the same stream, near the church, and were of wooden construction. There are the remains of a wooden mill by the roadside at Kollafjørður, which was formerly an important corn-growing area. Kvívík, however, has the best examples on this island.

The older of the 2 mills here is unique among those I have seen in the Faeroes in that it is without the usual lifting-mechanism. A small iron cup is set in the base of the shaft, and this revolves on an iron spike which protrudes from the rock of the stream-bed. (It is worth noting that this appears to be the opposite arrangement to that which obtained

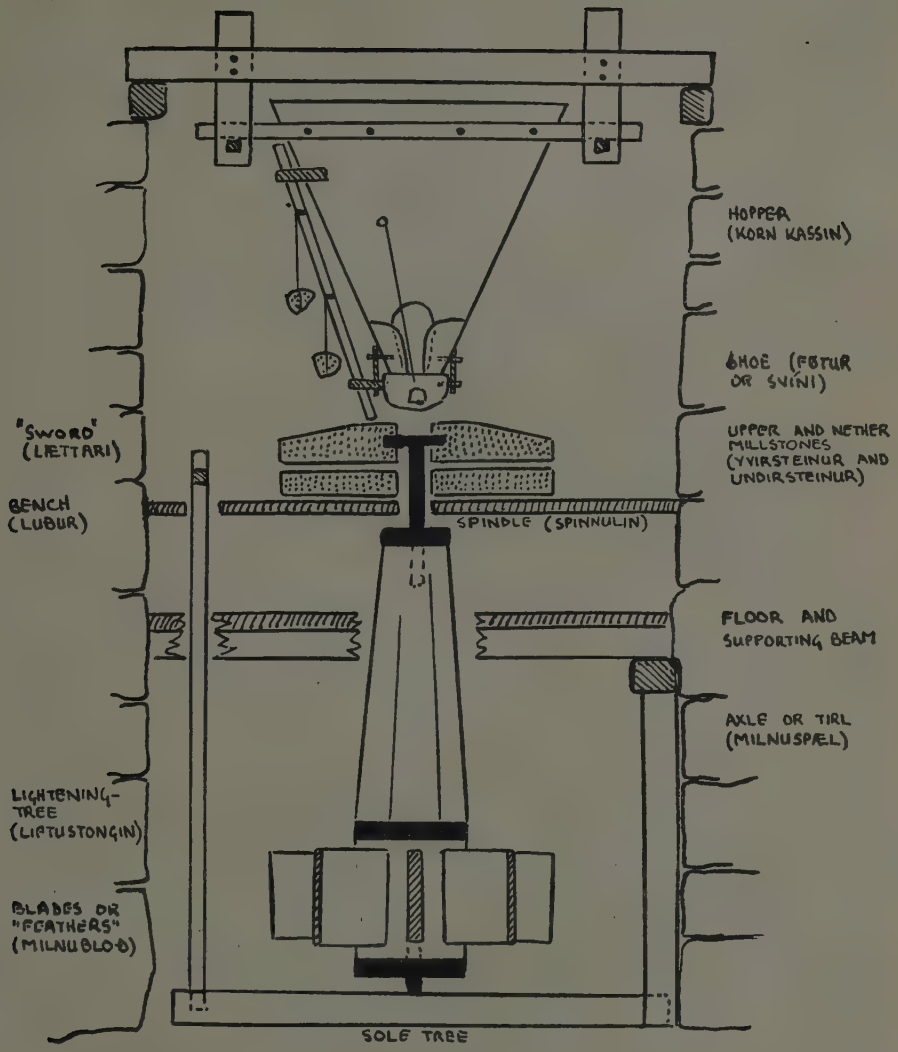

HOPPER
(KORN KASSIN)
SHOE (FÖTUR
OR SVINI)
"SWORD"
(LIETTARI)
UPPER AND NETHER
MILLSTONES
(YVIRSTEINUR AND
UNDIRSTEINUR)
BENCH
(LUBUR)
SPINDLE (SPINNULIN)
FLOOR AND
SUPPORTING BEAM
AXLE OR TIRL
(MILNUSPÆL)
LIGHTENING-
TREE
(LIÐTUSTONGIN)
BLADES OR
"FEATHERS"
(MILNUBLÖÐ)
SOLE TREE

Fig. 1

in Irish mills). The shaft is a piece of ship's spar found as driftwood (as the innumerable *Teredo* burrowings bear witness) and it is slotted for 12 blades, which were narrower than usual, and set diagonally. There is no evidence of a mill-race. The gable-walls are of a single thickness of basalt stones, and the long walls were of planks. The roof is of sods, laid on birch-bark. On my instigation Hr. H. A. Djurhuus of the Tórshavn Museum made arrangements to have this interesting building reconstructed and preserved *in situ*. It is called Hellumilla, and formerly belonged to the nearby farm, Uppi í Hella.

Formerly another old mill stood on the opposite bank of the same stream-diversion, but I could find no trace of this. The mill at present used is a new one lower down, below a waterfall: it also has a twelve-blade wheel, and possesses a sole-tree and *lyftustongin*. The original mill on this site was erected by a parson named Holm on land belonging to a farmer of the nearby village of Leynum, and Holm got the use of the ground on the tenure of milling one barrel of corn every year for his landlord. There has been a mill on this site for about 150 years, but the upper sites must be much older.

Hellumilla went out of use 40 years ago. Its measurements are: length, 1 m. 80 cms. (floor 90 cms., bench 90 cms.); width 1 m. 22 cms.; height to purlins 1 m. 24 cms., to gable 1 m. 84 cms.; shaft 1 m. 20 cms.; door 1 m. 15 cms. by 52 cms.; height of bench 42 cms. The newer mill is almost square in plan, 1 m. 76 cms. by 1 m. 67 cms., shaft 1 m. 33 cms., diameter of quern 65 cms.

Tórshavn. I put these under a separate heading because the mills in the Tórshavn area, though of typical construction, were commercial propositions grinding imported grain, rather than examples of the Faeroe peasant economy. There were 5 mills some 40 years ago, but only one (disused) remains. This is a fairly large wooden shed with a big eight-blade shaft above the road near Sandagerði on the outskirts of the town. Its most interesting feature is an iron rod with a bar turning in a long screw at the top, replacing the customary *lyftustongin* and *lættari*. Two wooden mills formerly existed at the coast lower downstream, below a fall, and the millers ferried the grain and flour to and from the Tórshavn warehouses by rowing-boat. One of these was last used for grinding sugar during the 1914–18 war. A mill in the town centre, which had two querns and two wheels under the same roof, was owned by a local merchant: it is commemorated in the street-name Mylnugøta. The PLATE shows Geilamilla, a splendid example of the characteristic wooden type which stood on the north side of the town, and is said to have been about 150 years old when it ceased to work some 20 years ago. The last miller told me that he had to carry the grain, and deliver the flour, in a wooden box or *leypur* supported on his back, as part of his contract with the merchants.

I am indebted to Hr. Erling Isholm for the photograph, which was taken by his father, and also for a photograph of a small wooden mill which existed at Hoyvík, a settlement a few miles east of Tórshavn, in the early years of the present century.

Koltur. There is a new wooden mill, constructed by the farmer ten years ago, and perhaps the most recent of this very ancient type now in existence). The working-parts are diminutive even for a horizontal mill, and the grindstones are actually those of a hand-quern. This has its advantages, for the stream is sometimes a mere trickle, and on such occasions the axle can be disconnected and the corn milled by hand. The wheel has seven blades, and the mill, so far as I know, is the only one in the Faeroes with a window! The millers normally worked by the light of a *kola*, a whale- or seal-oil lamp with a wick made from the pith of Common Rush.

VÁGAR. At Sandavágur there are 2 very old stone and timber mills on the same stream, about 80 yards apart, both with earth-banked races and wheels slotted for 8 blades. They are in an incipient state of decay, and ought certainly to be preserved *in situ*. Mr A. E. Zitman informed me that they were last used in 1918, and latterly ground imported grain. They were privately owned, but any one could grind corn there by arrangement, without paying for their use. This seems to have been quite general in the Faeroes: Hr. Mikkjal á Ryggi says only a rogue would have demanded a fee for so small a service!

Formerly there were 4 mills at Sandavágur, 3 at Miðvágur, 3 at Sørvágur, and 1 at Bøur. The names of the Sørvágur mills and the farms that owned them were: Kirkjuáin (Norður í Stovu); Storáin (Gomlu Stovu); and Skipaáin (Út í Stovu).

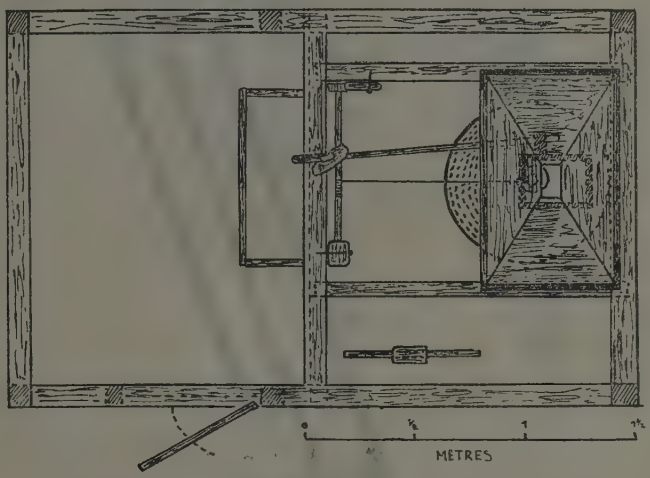


FIG. 2. PLAN OF HORIZONTAL MILL, SALTANGARA

The mill at Bøur is a large building entirely of masonry and very like some Hebridean and Shetland mills. The likeness extends to the under-house, which is mostly enclosed, having a small lintel-capped entrance and exit for the water-flow. The wheel originally had 8 large blades, but a further 8 smaller ones were added later. Remarkable features of this mill, which is about 100 years old, are the well-built stone race, its upper end cut out of overhanging rocks, and the stone and rubble causeway between the race and stream, which gives access to the sluice below a small pool where the race begins. Two *sornhús* or corn-drying kilns were sited close by, but are now in ruins. A plan of this mill is given in FIG. 3. The wheel now drives a small dynamo supplying a house in the village with electric light.

NÓLSOY. Hr. Niels á Botni tells me that there were formerly 6 mills on Nólsoy, where barley (as witness the place-name Kornadalur) was an important crop 100 years ago. He remembers the names of two only—Tvistur (archaic Faeroese meaning 'to argue',—because there was a good deal of quarrelling about the ownership of the mill!), and Sallarin (indicative of the coarse meal this mill produced). There are no remains of mills on Nólsoy today.

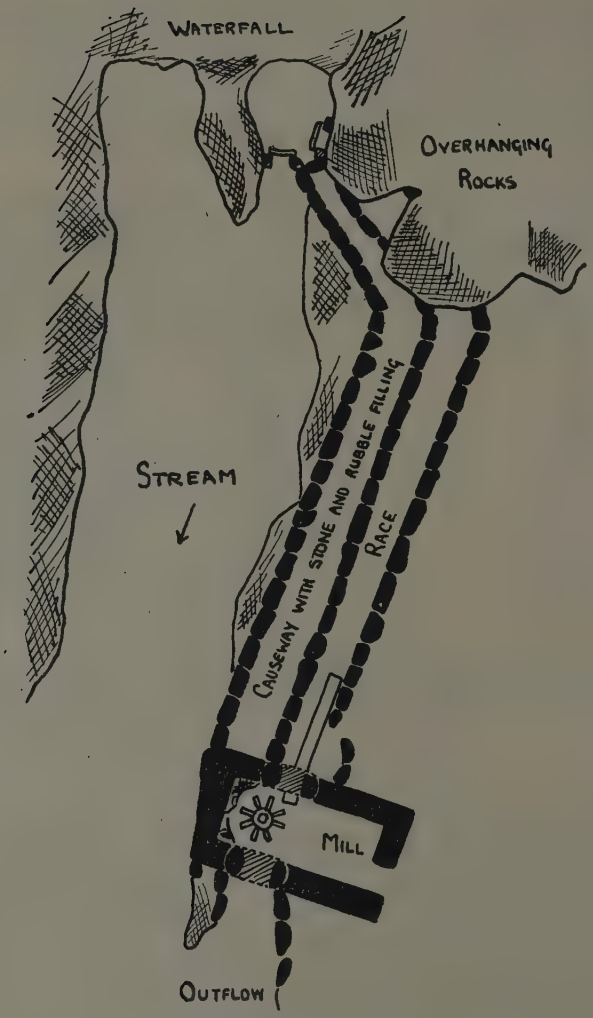


FIG. 3. HORIZONTAL MILL AND SURROUNDINGS
BÖUR (VÁGAR)

My grateful thanks are due to the owners of the various mills for allowing me to inspect the buildings, and to the following for information concerning their history, use and names, and the nomenclature of the various parts : Hr. Rasmus Rasmussen, Jóanes av Skarði, H. A. Djurhuus, Poul Isaksen í Geil, Erling Isholm, Niels Rein and Anton Degn of Tórshavn ; Hr. N. Jakobsen of Kvívík and Hanus á Skælingur ; Hr. S. Dalsgaarð, formerly of Skálavík ; Hr. Niels Petersen á Botni, Nólsoy ; Hr. J. Joensen and Mikkjal Danielsen á Ryggi, of Bøur ; Hr. Petur á Heygum of Vestmanna ; Hr. Niclas Niclassen of Koltur ; and Hr. Daniel Jakup Jensen of Froðbøur. I am grateful also to my wife for her invaluable services as interpreter, and for her constant readiness to hold the other end of the measuring tape !

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The Early Culture of Khwarizm*

by Sergei P. Tolstov

Director of the Institute of Ethnography, Moscow

'When they reached them they found them alive; they had built shelters for themselves, and lived on the fish they caught. There was much wood there'.

THESE brief remarks of Al Makdisi, from his account of the first colonization of Khwarizm, contain much of interest. For evidently in early medieval times there still survived in Khwarizm a vague traditional memory of an ancient culture, when the sandy islands of the great Oxus delta and the lowlands round the Sea of Aral were inhabited by sedentary fisher-folk, the ancestors of the creators of the brilliant but little known civilization of ancient Khwarizm.

The oldest neolithic settlement of Khwarizm is to be found amid the sands of the Kizil Kum desert, about a mile south of the ruined fort of Janbas Kala, district of Turtkul, Soviet Republic of Kara Kalpakian (PLATE I, A). It belongs to what I have called the Kelteminar culture, and is called Janbas no. 4 on the archaeological map. It is situated in a flat sandy depression, one of many at the foot of the Janbas Kala hills. The site is littered with potsherds, bones of animals, birds and fish, shells, flint flakes and implements and such like objects, lying on the surface and a few centimetres below it. Round the northern margin of the depression is a 'taqir' or flat expanse of clay, beneath which lies the culture-stratum of the ancient settlement.

Excavation on the edge of the taqir exposed the following succession of strata. At the top was the thin natural crust, increasing, towards the middle, to a thickness of 40 cm. It consisted of pinkish-grey loess-like clay with a large admixture of sand, intercalated with the imprints of large-leafed marsh-plants. Below this crust was a thin layer of greyish-yellow dune-sand, the upper part of which contained the first relics found—flint flakes, potsherds and abundant fish-bones. At a depth of 45–50 cm. below the surface was a layer of dark ash, 6–10 cm. thick, in which the greatest number of objects was found. Below this was another layer of dune-sand with many fish-bones. Relics were found down to a depth of 150 cm. [about 5 feet].

The implements and animal remains indicate that the Kelteminar people were hunters and more especially fishermen. The culture stratum is everywhere full of bones. Preliminary examination, by Professor Nikolsky, shows that the fish-bones are chiefly of pike and sheatfish (*Silurus glanis*). Of the animal bones, which were badly preserved, those that could be identified all belong, according to Professor Gromov, to

* This translation from the Russian did not run very fluently in the form in which it was received, and there were some obvious minor errors of translation to be corrected. It has therefore been entirely recast and rewritten by one of the Editors, and a few lines have been omitted. In the process every effort has been made to express, and when necessary to clarify, the author's meaning. The excavation described is the first to be undertaken in an important region, and the general conclusions reached will be closely studied and may well prove to be correct. But it may perhaps be suggested that further excavation and research, which we hope will be undertaken, is required to establish them upon a secure basis. O.G.S.C.

PLATE I

A. GENERAL VIEW OF JANBAS KALA

B. RIM OF BOAT-SHAPED VASE FROM JANBAS No. 4

facing p. 92

PLATE II

A. FRAGMENT OF POT FROM JANBAS, No. 4

B. MEMBERS OF THE EXPEDITION: PROF. TOLSTOV IS THIRD FROM RIGHT IN FRONT ROW

wild animals—boar (*Sus scrofa*), deer (*Cervus capreola*), also turtles and many species of wild birds. There were many shells of land and fresh water molluscs, and the shells of birds' eggs (1).

The plan of the settlement was of considerable interest. The house was built on sand, on the top of a dune that had been trodden hard. The contours of the dune show that its steep side faced north. After the house had been burnt down and abandoned, but whilst other houses in the settlement were still standing, sand drifted over the site, forming a number of small dunes whose steep sides again faced north. The contours of these dunes were kept intact under the thin crust of the taqir, formed when the lake-water flooded the settlement.

From these observations we may conclude that in the Third and Fourth Millennia B.C. the prevalent winds were exactly the opposite of those which blow there today. It is the prevalent northwest wind which is to a large extent responsible for the huge sheet of water formed by the Sea of Aral, which we must suppose to have then been much smaller, or merely a string of swampy lakes in the huge delta of the Amu Darya and Syr Darya.

In 1940 we laid bare 200 square metres, collecting also all the materials that were available from that part of the settlement which had been eroded away. The site was laid out on a grid and all finds recorded in their appropriate squares. In all, an area of some 400 square metres was studied in great detail.

Excavation showed that Janbas Kala no. 4 was a large communal dwelling with clearly defined limits, outside of which finds were rare. In plan the dwelling was roughly oval, or, to be exact, it was a polygon with the main axis running from NNE to SSW. The area was about 290 square metres. The house was built on the ground ; the walls consisted of a wooden framework of posts with crossbeams for the reed-thatched roof. The post-holes, all that remained, contained black ashy earth with fragments of charcoal, and were arranged in three concentric circles. The first was the outermost side of the polygon, the second (approximately square) enclosed the central hearth, to be described later ; and the third was between these two others. No clay was used in the building. The rafters were placed radially on the tops of the posts and the spaces between them filled with open wickerwork. The plan of the fallen roof could be seen in the ashy layer above the culture-stratum. All over the area of the house could be seen charred reeds, the remains of the roof.

In the middle of the building was a large round hearth, 120 cm. in diameter ; it differed considerably from the cooking-hearths, rows of which were found round the perimeter of the building. The main features of the central hearth were : (1) complete absence there or anywhere in its vicinity of household objects or kitchen refuse, found in large quantities round the other fire-places ; (2) entirely different character of the ash, which on the cooking-hearths was black and grey, with cinders, whereas here we found only pure white ash, indicating complete combustion of the fuel ; (3) a layer of sand underneath (about 50 cm. thick) burnt bright red. There was a similar layer of sand under all the cooking-hearths, but it was only from half to two cm. thick. These facts made us regard the central hearth as of some religious significance rather than as a cooking-hearth. Fire had evidently been burning there continuously for a long time.

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[1] Amongst the molluscs were. (1) PULMONATA. *Planorbis planorbis*, var. *subangulatus* Phil. ; *Planorbis ehrenbergi* Beck. ; *Lymnaca* sp. ; *Futicicoda* sp. (2) LAMELLIBRANCHIA. *Anodonta cyrea* var. ; *Anodonta Ullensis* var. Tsvetkov regards the presence of *Anodonta*, *Pl. planorbis* and *Lymnaca* as evidence of rivers with many backwaters, and of large expanses of shallow water.

The date of the Kelteminar culture as a whole, and of the Janbas Kala no. 4 settlement in particular, cannot (as we shall see) be later than the beginning of the 3rd millennium B.C., possibly even in the 4th millennium ; so that this central hearth is thus the oldest remains of fire-worship in Central Asia, or perhaps in the whole of the East. This conclusion is of particular importance in view of the great role played by fire-worship later in Mazdaism, the dominant pre-Moslem religion of Central Asia and Iran.

The undying fire of Janbas Kala no. 4 is a fresh argument in support of a point we have often emphasized—the extreme antiquity of those elements of Mazdaism which can be traced back to the religion of the primitive community, and of those features which distinguish it from all other religions of antiquity—fire-worship, dualism, certain peculiar funeral rites and so on.

The cooking-fires, as already mentioned, were placed in rows round the perimeter of the dwelling. In the 144 square metres of the house-area excavated there were 56 such fires, suggesting that, allowing for those destroyed by erosion and those not uncovered, there could not have been less than 100 in all. Moreover, they were not all contemporary—some were over older hearths—and most of them were not in use for long ; hence we may conclude that the cooking-places were often changed. From the disposition of the hearths and associated finds it is clear that originally they were placed in two rows, one near the sides of the house and the other four or five metres near the middle of it. There is also some regularity to be observed in the arrangement of the fire-places in the segments of the house formed by the radial rows of uprights. The middle part of each segment did not, as a rule, have any fires. North-northeast of the central hearth is a strip of floor running along the main axis of the house and devoid of fires. From the arrangement of the fires and associated objects it appears that the entrance was on the short northern side.

The plan of the house gives some clues to the social organization of the Kelteminar. From the large number of hearths and the proven fact that they were successive and not all contemporary it may be inferred that the community was not divided into families (2), such as are associated with the permanent, well-built hearths of the big houses of the Tripolye and Ananyino cultures ; these, and also the large early Iron Age houses of Biskupin (3) in Poland, must be regarded as belonging to the matriarchal family in its later stages—the period of its zenith, just before dissolution.

This is even truer of the many-roomed communal houses near Persepolis, excavated by Herzfeld (4), which despite their early date (4th millennium) belong typologically to the many-roomed communal houses of Hellenistic age in Khwarizm (Janbas Kala and Toprak-Kala).

The Kelteminar culture is probably to be regarded as characterized by a still very loosely defined (Syndiasmian) family. The Kelteminar house was more archaic than the Iroquois long house, and was probably more like the dwellings of the Mandans, Bakairis or, more particularly, of the Andaman islanders, whose houses they resemble both in being round and in having a central communal hearth with surrounding cooking-fires.

The house must have had a large number of occupants. The Mandan house (about 96 square metres) held between 30 and 40 people—between 2.4 and 3.2 square metres

[2] The author calls these ' Syndiasmian ', a word we have omitted as it is not current in the English-speaking world.

[3] See ANTIQUITY, 1938, XII, 311–17.

[4] In 1923, 1928 and 1931. See *Iran in the Ancient East*, by E. Herzfeld, London and New York, 1941, pp. 10–11.

per person. The Andamanese house (154 square metres) held, according to E. H. Man, up to 100 people—about 1.5 square metres per person. On this reckoning the Janbas Kala house (about 290 square metres) should have held between 90 and 185 persons; and we shall probably not be far out in putting the figure at between 100 and 125.

The Kelteminar house can be reconstructed from the facts revealed by excavation and by comparison with similar types of primitive house described by ethnographers. In this way we can estimate its height as between 8 and 10 metres. Actually the Andaman huts have a diameter of 60 feet (17 metres) and a height of 30 feet (8.5 metres); those whose diameter is 20 metres are 10 metres high. Analyzing the proportions of the Andamanese house and others we find that the largest round buildings of primitive peoples have a ratio of height to diameter of 1 : 2; that is, the angle of the roof is about 45 degrees. Architecturally, this is the most convenient proportion, for it gives the optimum distribution of loads in two directions—vertically on the uprights, and horizontally along the slope of the roof, which is thus adequate to throw off rain and yet flat enough to prevent the thatch and its supporting framework from slipping. One of the commonest native trees of the Amu Darya region, the poplar, would provide excellent material for the supporting uprights.

There were many well-made implements of white and brown flint and of a jasper-like material, consisting of microlithic blades, scrapers, chisels, awls and arrowheads of a single type made from flakes worked on one face only, such as are typical of the neolithic period in Siberia and the Urals.

The list of Kelteminar tools is closely analogous to that of the above-mentioned late neolithic settlement near Persepolis. Allowing for the existence of cultural relations and influences, this analogy presumes that the Kelteminar culture was contemporary with that of Persepolis, and earlier than the comparable cultures in the Urals and Siberia, which, as the whole historical context shows, developed under strong influence from the Kelteminar culture.

We also found some larger blades trimmed to a knife shape, and some flat polished slate knives with a curved cutting-edge. The fragments found of large polished greenstone axes are unfortunately too small and few in number to give any clue to their shape, but they were certainly not perforated. Objects of bone include many arrowheads of a long cylindro-conical shape, some grooved at the neck, and two large bone tools that need restoration; they seem to have been the hafts of microlithic flint blades (5). Many sandstone slabs with smoothened surface were found round the hearths, as well as yellow pigments. The ornaments found consisted of beads and pendants of marine shells, coloured stones and bird-bones. There were also large numbers of cylindrical shells (*Scaphopoda* and three varieties of *Dentalium*), pierced bone beads, flat stone and bone pendants, flat chipped shell plaques perforated at the edge (*Pecten* sp. and *Cardium edule* L.) and other ornaments.

The settlement yielded many fragments of round-bottomed vessels of several types, ornamented with stamped and scratched patterns arranged in narrow bands, especially on the upper parts of the vessels. The mouths are straight and very slightly thickened (? bevelled) on the inside. The typical ornament on the shoulder consisted of separately drawn trapezoids and rectangles filled with vertical impressions made with an oval stamp. The ware was thin, relatively well fired, with a smooth yellow-brown surface, sometimes showing remains of red colouring.

This pottery is one of the earliest links in the chain of eneolithic cultures in north-eastern Europe and northwestern Asia, and is close to the Drevne-Yamnaya culture of

[5] Harpoons, O.G.S.C.

eastern Europe, and to the Afanasiev culture of Southern Siberia; but it is of greater age than either of these.

The closest analogy both to the pottery and the flints is to be found in the distant northwest, at the Levshinsk eneolithic settlement at the mouth of the river Chusovaya in the Kama basin, excavated by A. V. Schmidt (6) and N. A. Prokoshev (7), and assigned to the end of the 3rd millennium.

The presence of metal—a bronze knife—and the discovery of a flat-bottomed vessel give ground for thinking that the Levshinsk settlement is later than Janbas Kala no. 4, and supports the dating assumed above.

Certain, but more distant, connexions may be found between the Kelteminar pottery and that found by V. Chernetsov (8) in the Lower Ob region.

A fragment of a large thick-sided vase from Janbas Kala no. 4 resembles the late neolithic pottery of southern Siberia, where many parallels (9) to the pottery and flints were found. In 1940 we found fragments of vases, some parts of which were covered with a wavy-line ornament in the form of thin segments of a circle following one after the other and applied with a sickle-shaped stamp (10).

A boat-shaped vase was particularly interesting; it was of thick ware, rather deep, and shaped like an egg bisected longitudinally (PLATE I, B). One of these vessels, which had once been coloured red was covered with incised decoration consisting of vertical lines separating a background of rectangles. Other smaller oval dishes were found, mostly with little or no ornamentation. One of them had two conical projections at the smaller end, resembling those on the 'face-urns' of Tepe Hissar, Troy and the neolithic vases of Central Europe. The boat-shaped vessels are unique among stone and bronze age types, but oval dishes recalling those of Kelteminar occur in the Bronze Age of the Urals (2nd millennium).

A large number of potsherds belonged to vessels covered with a zigzag herring-bone pattern (PLATE II, A) like those of the Afanasiev culture (11)—the Transural culture of the Shigir type. The closest parallel is provided by the pottery of Eastern Turkestan found by Sir Aurel Stein associated with microliths very like those of Kelteminar; and by the flint implements found in scattered settlements under small taqirs and in the sands of the Yarkend Darya basin, some 45 kilometres from the river, and at the mouth of the Darya (12).

Generally speaking we can hazard a fairly complete sketch of the cultural and historical relations of the Kelteminar folk. Their culture is a late neolithic one with microlithic traditions, covering an area extending from the Sea of Aral in the west to Sinkiang in the east, and apparently somehow connected with contemporary cultures between the Persian Gulf and the Gobi desert. In the northwest Kelteminar influence

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[6] 'The Levshinsk settlement', *Sovetskaya Arkheologiga*, 1940, 1 ff.

[7] 'Neolithic remains of the Kama Basin'; *Mia*, no. 1, 1940, 20 ff.

[8] KSIIMK, IX, 1941, 19, fig. 2 (1–7).

[9] See B. Petri: Neolithic discoveries at Baikal; MAE, Collection no. 3, 1915. See also G. P. Sosnovsky in *Igaimit*, no. 100, pp. 210 ff.

[10] Potsherds of this type were mostly found at Janbas Kala no. 5—a large dwelling some 300 metres south of Janbas Kala no. 4, but completely destroyed by erosion.

[11] S. A. Teploukhov; 'Ancient burials in the Minusinsk region'. MAE III, 2, p. 7, plate 1, etc. Leningrad, 1927.

[12] Sir Aurel Stein, *Innermost Asia*, vol. I, 85, 196, 205–6; Appendices XXII, XXIII. Compare his 'Serindia' I, 357, and R. A. Smith in *Man*, vol. XI, 1911, 31 ff.

extends to the lower reaches of the river Chusovaya, and in the north to the mouth of the Ob ; and it is now possible to state that the earlier group of Ural cultures, of the Shigir cycle (**13**), developed under strong influence from the neolithic cultures of the Aral Basin.

The strong influence of the Kelteminar neolithic culture, in the broad sense, is most evident in the Siberian neolithic period, where it blends with local macrolithic traditions ; and it turns up again in the Afanasiev culture, which probably again came under the influence of later derivatives of the Kelteminar. The cultural influence or ethnic movements which produced those features possessed in common by both the Afanasiev and Kelteminar cultures passed from the Aral Basin into Siberia ; and this explains the presence in the Afanasiev graves of *Corbicula fluminalis* shells, which are found in a living state only at the mouth of the Amu Darya (**14**).

The area under discussion extends far beyond the limits of Central Asia and includes Northern India, as far as the Vindhya hills, and Burma. But unfortunately the pottery of these regions has been little studied, except the painted pottery, the only thing certain being that it belongs to the cycle of primitive pottery with stamped ornament, including herring-bone patterns. The flints of this area also reveal traces of the same microlithic traditions, and are very close to those we are discussing (**15**).

It is extremely important that amongst the shell-ornaments and unworked shells found at Janbas Kala no. 4, we have not hitherto found any examples of *Corbicula fluminalis*. The shells we did find, however, are of no less interest both historically and ethnologically. For according to the opinion of specialists of the Moscow University Zoological Museum there are amongst them many marine types unknown in the Sea of Aral, including three varieties of *Scaphopoda* belonging to the *Dentalium* family. One of these, *Dentalium entale* L., has a wide distribution, occurring in the Barents Sea, the Arctic Ocean, the Mediterranean, the Red Sea and the Persian Gulf. Two others are varieties that live only in the basin of the Indian Ocean, the Red Sea and the Persian and Arabian Gulfs, suggesting that there was some intercourse between neolithic Khwarizm and the shores of the Indian Ocean.

In this connexion reference must be made to remarks by philologists, from Korosi Csoma (1782–1842) onwards, on the relation between the languages of pre-Aryan India—Dravidian and Munda—and the Finno-Ugrian languages, especially the Ugrian of northern Eurasia (**16**).

The historical roots of these interrelations must go very far back, for since the middle of the first millennium the ethnographical pattern of the intervening region is fairly well known ; there was then a block of Aryan (Indo-Iranian) peoples between the Finno-Ugrian peoples and the Munda and Dravidians. I think we must also exclude the second millennium, during which there was a crystallization of the ethno-cultural unity of the peoples of the Eurasian steppes, from the Don to the Minussinsk region, taking the form of the stable complex of Srubnaya and Khvalinsk cultures with no parallel to

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[13] ' Kulturkreis '.

[14] S. A. Teploukhov, op. cit. pp. 75–6 ; ' Materials relating to Ethnography ', IV, 42–3.

[15] J. H. Rivett-Carnac, *Some implements from the northwest of India*, Calcutta, 1883 ; R. Bruce Foote, *The Foote collection of Indian prehistoric and protohistoric antiquities*, Madras, 1916 ; W. Y. Blandford, *Proc. Asiatic Soc. Bengal*, 1866, 230, plates II–IV ; R. Bruce Foote, ' Notes on prehistoric finds in India ', JKIA, XVI, 1887 ; 70. Coggin Brown, *Catalogue raisonne of the prehistoric antiquities in the Indian museum of Calcutta* ; plates VIII, IX ; Simla, 1917 ; O. Menghin, *Weltgeschichte der Steinzeit*, p. 197 : Wien, 1931.

[16] See note p. 99.

the south of the Central Asiatic deserts. On the other hand the extensive and archaeologically recorded continuity of the late neolithic cultures from Northern India to the Yenisei, the mouth of the Ob and the Kama basin justifies us in asking whether this was the decisive period in the formation of Indo-Ugric parallels, the Aral basin being one link in the chain ? The easiest and most direct route to India follows a line drawn from the mouth of the Indus through Lake Hamun, Gilmeid, Murghab, Khwarizm, thence on to Irgiz, Turgai and perhaps even the Embe and Trans-Urals to the Chusovaya river and the Kama. The geographical conditions, as revealed in the Kelteminar region during the pre-agricultural period, were such that there was an abundance of water and even marshland in the basins of neighbouring rivers, so that one possible objection to the theory—that a desert extended along the route—is removed.

It seems that this line, with the easy passes of the Hindu Kush and the Pamirs, was the axis of ethno-cultural consolidation of the ancient tribes of India, Iran, Central Asia and Eastern Europe ; this consolidation being the prime cause of the community of languages that obtained between pre-Aryan India and Eastern European in pre-Indo-European times. Probably the relations which brought about these Indo-Ugrian parallels go back to even more remote times. Such a view finds support from the potsherds found by D. S. Bukinich at Unguz in the middle of the Kara Kum desert. These potsherds are clumsier and thicker than those of Kelteminar ; they are ornamented with round impressions, and typologically they closely resemble the early neolithic Kam-Keramik (comb-ware) of Eastern Europe.

Mention must also be made of the numerous potsherds which combine a stamped pattern with surfaces painted in red, supporting our contention that the Kelteminar culture is a cross between the various dominant cultures of the Siberian neolithic and the Urals on the one hand and the Steppe Bronze Age culture, which was influenced by coloured pottery of the Anau type on the other. In this connexion the oval plan of the dwelling is also of some interest. Ethnographical observations suggest that the oval dwelling occurs where contact is made between people living in rectangular houses and those living in round houses. In South America, for instance, the oval-shaped house is found amongst the Arawak-Yemanadis on the Amazon Tributaries, amongst the Caraib-Bakairis of the upper Shingo—that is, amongst tribes living to the south of the chief region in which the rectangular ' Maloca ' occurs, and to the north of the region in which the round house predominates (the Matto Grosso and the Brazilian highlands). In Africa we find oval houses amongst the Mangbattu who live on the borders between the Sudan, where the round house predominates, and the Congo where most buildings are rectangular (**17**).

It is interesting to note that in Anau III there appeared many potsherds like the Kelteminar type, and the Tazabagyab pottery which succeeded it in Khwarizm in the 2nd millennium (**18**), evidence of a mingling of the two primitive cultures of Anau and the Tazabagyab culture of the descendants of the Kelteminar fisher-folk. A Khwarizm legend says that Siyavush, the mythical founder, came from the south. The Anau influence at Kelteminar has already been mentioned. I think this gives us the right to

[17] This generalization appears to be too sweeping. Both rectangular and round houses are quite common in the Sudan, with walls made both of wattle or of mud. Rectangular houses with mud walls occurred on the Blue Nile during the first two millennia of the present era, and before. It is not safe to generalize about the shapes of houses covering such huge areas as these cited. O.G.S.C.

[18] R. Pumpelly, *Explorations in Turkestan : expedition of* 1904, plate 15. Washington, 1907.

propound, as a working hypothesis only of course, the theory that the painted pottery people mingled, first with the hunting and fisher-folk and then with the pastoral and agricultural cultures of the Eurasian north. Such a mingling is one of the first prerequisites required for the foundation of the Indo-European culture in general and of the Indo-Iranian group in particular.

The descendants of the Kelteminar fisher-folk, under the influence of the southern cultivators of the Caspian civilization, became cattle-herders and farmers. In this process the rich resources of the Aral depression clearly played a leading part, and it therefore should be regarded, as it is by Marquart, as comparable with the Airyan-Vaejo, the Homeland of the Aryans in the Avesta legends.

Note

See Caldwell, Comparative grammar of the Dravidian or South Indian family of languages, 3rd edition, London, 1913, 67; O. Schrader, ' Dravidisch und Uralisch ', *Zeitschrift für Indologie und Iranistik* III, 1925, 81 ff.

A connexion between the Ugrian languages and Munda was first suggested by T. A. Uxbond, *Munda-Magyar-Maori* (London, 1928), but attracted little attention. More information about this is to be found in the works of G. Hevesy : ' On W. Schmidt's Mundo-Monkmer Comparison ', *Bull. School of Or. Studies*, VI, 1930, 187–200 (London, 1930), and in his *Finnisch-Ugrisches in Indien* (Wien, 1932); see also his ' Ob Ougriens de Siberie et Munda de l'Inde ', *L'Anthropologie* XLVI, 1936, 613, and his article in OLZ, 1936, and others which aroused wide discussion. Hungarian, Finnish and other Finno-Ugrian specialists with very few exceptions controverted his statements. For a criticism of Hevesy's works see A. Sauvegeot, *Bull. Soc. de Linguistes de Paris*, XXXIV, 180 ff; G. Goldi, *Rev. des Etudes Hongroises*, 1933, 334 ff; V. Stein is sceptical of Hevesy's assumptions; see ' India between the Cultures ', *Indian Culture*, IV, no. 3, 1938, 296. Hevesy's work was actively supported by Indian students; see V. Bannerjee, ' Traces of Ugrian Occupation ', *Indian Culture* III, no. 4, 621–3 (Calcutta, 1937).

Notes and News

FURTHER NOTE ON THE UNICORN

Before I read Mr Hutton's ' Unicorn ' note in the March number of ANTIQUITY, a friendly correspondent writing from Oxford, Mr W. C. Brice, had already called my attention to the Mohenjo-daro seals. I have been familiar (through the medium of Sir John Marshall's photographs) with these seals for some years, and it was unforgiveable carelessness on my part to overlook them while in search of the Unicorn's origin. It did not occur to me to look back so far, and, what is more, I had never realized, until both Mr Hutton and my Oxford correspondent pointed it out, that among the various animals on these seals, one was an indubitable Unicorn. That information is due to them; and it is one that admits of little doubt. For, as Mr Hutton says, the other horned animals of the seals, though drawn in strict profile, have both horns depicted as if seen full face—a convention very prevalent among primitive artists. The only animal portrayed with one horn is unquestionably meant to have only one. Curiously enough, too, this beast can fairly be described as an ' Indian Ox '—the only one of Pliny's three unicorned animals which he invented himself. But that Pliny ever saw one of these seals—already of great age in his day—is most unlikely.

These old seal-engravers were fine craftsmen. Within the minute field on which they worked, all their animals are instantly recognizable for what they are ; with the one exception of their unicorn. This beast zoologists would certainly class as a ' nondescript '. At the same time it is a standing proof of its creators' artistry. Although it appears on these seals with greater frequency than any other animal, we can detect no sign of stylization. The engravings, it is true, vary in merit as works of art, but the beast itself remains recognizably the same. It is always true to type and never degenerates into a diagram. This is a sure indication of conscientious craftsmanship.

It is well worth while to examine this creature more closely. I do not wholly agree with Mr Hutton that it derives from the Blackbuck of India, though his suggestion that its single horn was a man-made abnormality, due to the artificial fusion of its two horns when young, opens up interesting possibilities. I cannot help thinking it improbable that any animal so small and timid as the Blackbuck would figure on these seals. All the other animals chosen—Elephant, Tiger, Rhinoceros, Zebu Bull, and Bull of aurochstype—are big animals which, when molested, will fight ; all are naturally truculent, and this the Blackbuck, in spite of its long corkscrew horns, is not. Besides the Unicorn of the seals in no way resembles a Blackbuck—and yet these old seal-engravers certainly knew how to draw. Their unicorn is long in the body, has an ox's tail (though a skimpy one), stands low on sturdy legs, and carries its head strongly out-thrust like an African buffalo scenting danger. None of these characteristics are those of a Blackbuck. To my mind the model the seal-engravers used for their Unicorn's *body* was almost certainly that of the Indian Water-Buffalo—the animal which, barring its strange horn, it most nearly resembles.

We have yet to consider two important and invariable features of this Unicorn. The first is the curious ' saddlebag ' laid across its withers and always outlined with a double line. This cloth, or whatever it is, is too far forward for a saddle ; too far back to be the support of a yoke. More than anything else it recalls the elaborate brands

certain African tribes—the Masai for one—use to mark their cattle. But this is far from a satisfactory solution.

The second, and more important, feature is the single horn. Taken by itself, and examined apart from the head, it resembles closely, both in its double curvature and in its strong ridging, the horns of several *African* antelopes and gazelles. In no respect does it resemble the horns of any *Indian* antelope. It has one characteristic, however, which differentiates it from all normal antelopes' horns ; it faces the wrong way. Reverse it back to front and at once you get a normal antelope-horn. Emplanted the way it is on the Unicorn's head, it is quite impossible in its violent and unnatural forward projection. Now this means that the horn used as a model came from a beast which the seal-engravers had never seen ; it must have been a single detached horn of unknown origin. And in all probability the engraver set it on his Unicorn's head back to front, because he thought the animal looked more formidable that way.

Arising out of this there are two questions needing answers. The first—to which of the many possible African antelopes did the horn belong ? and the second, which of all its possible original owners most nearly resembles both the Unicorn of the seals and the model used for it—i.e. the Water-Buffalo ? The most complete answer to both these questions gives us an admirable example of the fantastic results one can arrive at by following out to its logical conclusion a line of argument based largely on conjecture. For it is necessary for us first to suppose that this detached African antelope's horn managed somehow (in the way of trade perhaps), to make its way into the Indus Valley ; and second, to suppose that with it there came a reasonably accurate, though considerably exaggerated, account of the animal that owned it—an account chiefly astray in reference to the animal's size. In other words a seller's rather than a buyer's account. Both these suppositions take a deal of swallowing : but once swallowed the rest of the road is as *facilis* as a *descensus Averno*.

Amid the swamps of the Sudan, and nowhere else in Africa, there lives a species of antelope which, at the time of its quite recent discovery, was called Mrs Gray's Cob (*Cobus Maria*). Today it is generally spoken of as the Nile, or Saddlebacked, Lechwe (*onotragus megaceros*).

I will not describe it in my own words lest I be suspected of ' cooking the account '. This is how the late Capt. H. C. Brocklehurst (than whom there was no better field authority) describes it in his *Game Animals of the Sudan*.

' Nile Lechwe do not carry their heads erect like the Cob, but poke them forward until the top of the head is almost level with the rump. The horns have a double curve and are ridged almost to the tips. . . . Old bucks are blackish brown in colour with a large patch of white on and in front of the withers. This white patch on a dark background makes the bucks very conspicuous. . . . The coat is long and rough, and very similar to that of the Situtunga. . . . Nile Lechwe spend most of their time on the edge of swamps and often knee-deep in water '. (The dots in the above represent unessentials here omitted).

Now except for the ' neglectable ' difference of size, could any description agree more closely with the composite Unicorn—Water Buffalo of the seals. We have first, the out-thrust head ; second, the double curve and ridges of the horns ; and third, the conspicuous white saddle patch (our unicorn's saddle cloth). In addition we have fourth, the rough coat ; and fifth and last, the affection for swamps common to both Lechwe and Buffalo.

We have it on a very high authority (Sherlock Holmes's I believe) that if a wanted man, when arrested, agrees in *three* particulars with his broadcast description ; if he

has, let us say, a squint, fiery red hair, and a limp ; then that man is the murderer. No matter if he turns out on arrest to be thin and pale, whereas his description gives him as stout and rubicund ; the three characteristics which agree will be sufficient to hang him in defiance of his weight and complexion.

In the case we are now investigating we have three good similarities, backed by two others almost as good but a little less germane. That should be enough to secure conviction. In addition the Lechwe's horn is long for the beast's size, which makes a good excuse for the seller of its horn to exaggerate the animal's bulk. There is also yet another similarity between the Lechwe and our Unicorn : but this one is too evanescent to stress. The rough coats of both Lechwe and Water-Buffalo tend when damp (as they often are), to gather in parallel ridges : ridges which recall the curious Zebra-markings visible on the cheeks and sometimes on the neck of our seal Unicorn. These Zebra-markings are one of the few characteristics of the Unicorn which are variable. They vary in number nearly always, and often they are altogether absent. But there is, I think, a better way to account for them. Presuming that these seals have some heraldic or dynastic significance, the stripes are for what heralds would call ' difference ' and correspond to the numbers we give to our synonymous kings.

But what need is there to go on. The whole thing is, of course, preposterous. If I were asked the embarrassing question ' Do you *really* believe that a Lechwe horn could get from the upper Nile to the distant Indus in such very early times ' ? my only possible answer would be the noncommittal Irish one ' It might ' :—an answer which can be defined—grammatically—as an affirmative expecting contradiction.

One fact at least emerges from the welter of improbabilities. This nondescript animal of the Indus Valley seals is the *First Unicorn on record*. If it can be proved that the Indus Valley civilization came to no abrupt end, but passed on some at least of its lore and traditions to later civilizations, we have here also the *fons et origo* of the Unicorn legend. It arose, as we have already suspected, in India, and thence spread westward to Europe and eastward to China and Japan.

The fact that *a* Unicorn legend was still current in India at a far later date than the Indus Valley civilization is a slight indication (worth bearing in mind if other similar slight indications crop up) that this ancient civilization did not wholly die ; but carried on, faintly but persistently, over the subsequent blank of 2000 years, across which prehistorians are now striving to throw a transversable bridge. W. H. RIDDELL.

Reviews

TELL HASSUNA: excavations conducted by the Iraq Government Directorate General of Antiquities in 1943 and 1944, by SETON LLOYD *and* FUAD SAFAR, with prefatory remarks by ROBERT J. BRAIDWOOD. Reprinted from the Journal of *Near Eastern Studies*, 1945, *pp.* 255–87 *and plates* I–XXII.

The beginnings of literate city life—'the urban revolution'—in the Tigris-Euphrates valley have been revealed with a wealth of detail during the last twenty-one years of truce; in the years of the subsequent war excavations at Tell Hassuna have thrown the first clear light on the beginnings of settled village life —'the neolithic revolution'—in the same area. The site lies 22 miles due south of Mosul between the Tigris and Euphrates indeed, but, significantly, not in Babylonia, still less in Sumer, but on the belt of steppe that forms part of the saddle in Breasted's Fertile Crescent. This is an upland country, criss-crossed by wadis and enjoying a winter rainfall that makes corn-growing possible without irrigation. The mound lies at the junction of two wadis close to a perennial well that provides water for the flocks belonging to the twenty-five households of the modern village. It covers in all some 30,000 square metres (7 acres) of which 2500 were excavated. The successive villages whose ruins compose the tell were not built precisely over the same area; when the debris from the earliest settlements—layers I–VI—had formed a mound almost 5 metres high, the centre of habitation was shifted westward. The superimposed levels of the subsequent settlements yielded relics first of the Halafian and then of the Ubaid cultures, already familiar from many sites in the region. But the earlier layers, while they dip under the Halafian on the west, were exposed just below the surface further east and could therefore be easily explored. The main excavation, termed Sounding I, was concentrated on this area.

The first settlers on the site have left implements and prepared hearths 'on the clean water-borne clay of the wadi' (does this mean that the area was then liable to periodical flooding, and is it certain that no earlier occupation lurks beneath this clay?). In this they sank a large storage jar, but they left no walls nor post-holes. Yet three successive encampments of this sort resulted in an accumulation nearly a metre deep that is termed level Ia.

The relics collected include polished stone 'celts', chipped chert 'hand-axes' like those later accepted as hoe-blades, obsidian blades including a lance-head retouched on both faces, clay sling pellets and jars of very coarse pottery liberally tempered with straw, but no certain sickle-teeth, granaries nor bread-ovens. Lloyd therefore inclines to regard these first settlers as hunters and herdsmen rather than cultivators. But Safar admits that the large jars may have been used for storing grain and actually resemble in shape the later grain bins; as the later sickle-teeth were not serrated, it is impossible to prove that none of the flint or chert flakes found in layer Ia were so used; the hoe blades seem essentially like later specimens used by undoubted farmers; and the minute photograph on plate IX, 1 represents what looks like a 'grain-rubber' the precursor of the saddle-quern. Infants were already buried in jars. The jars themselves are quite large, up to 70 cm. high, and have been built up out of two pieces joining at a slight keel. Many have nipples or lugs just below the rim. In shape these jars, apart from the absence of necks, are absurdly like the equally large jars, constructed, out of much better clay of

course, by the same method and certainly used for storing grain, in the Tripolye culture of the Ukraine.

The excavators term layer Ia with its three subdivisions, ' neolithic '. With level Ib begins their ' protochalcolithic ' or Hassuna archaic, distinguished at once by walls of adobe, bread-ovens, and grain bins, the first plainted pottery, the first beads of hard stone including turquoise, and undoubted sickle flints. The house-walls, 20 to 45 cm. thick, are made of irregular lumps of clay, put together while still moist with smaller lumps stuck in to fill up chinks. The houses seem normally to have consisted of several rectangular rooms grouped round a court, but one building (in Ib) was curvilinear in plan and perhaps divided up by radial walls like the famous Minoan house at Chamaizi and later Hebridean wheel-houses. At the end of one room in a normal house a human skeleton had been buried in the contracted position under the floor against the wall foundations with a line of stones to make the fourth side of the grave. A dozen infant burials in jars also came from levels Ib and Ic.

In the pottery straw temper is now rarer, its place being taken by a grit-tempered fabric, pink or buff in colour. The commonest forms are bowls and globular jars with a short neck. Both may be painted in lustrous red with rectilinear basketry patterns. The one jar completed stands only about 25 cm. high and so can hardly have served to store grain. For this purpose bins of unbaked clay, tempered with straw and coated outside with bitumen were constructed and subsequently lowered into pits so that their rims were flush with the floors. In profile these bins resemble the pottery jars of layer Ia but are substantially larger. Stone celts, chert hoes, flint and obsidian blades continue in the archaic levels and indeed right up to level VI. We are indeed told that ' the best hoes and the largest celts were confined to layer Ia ', but actually the largest celt illustrated—an adze 15 cm. long—came from VI, while the three figured from Ia do not exceed 6 cm. in length.

With level II begins a third phase, characterized by Hassuna standard pottery that may be painted or incised or both. The painted variety differs from the archaic in that the paint, still generally red but sometimes dark brown or almost black, is always matt and is applied over a creamy slip. The painted designs may be combined with, or replaced by, patterns sharply incised in the wet slip. The designs are of the old basketry kind and globular jars and open bowls persist. A new form is an oval dish, on an average 60 cm. by 40 cm. across and 15 cm. deep, the bottom of which is deeply grooved on the inside. The excavators tentatively suggest that these dishes were used to separate grains from their husks and term them ' husking trays '. This standard pottery is characteristic for levels II to VI inclusive.

A miniature stone bowl was found in level II. In the same context appear female figurines ; some of baked clay are very schematic, almost like the fiddle types of Crete, but one, of unbaked clay, is more naturalistic and, judging from the photograph, seated. The architecture, following the old plans, is henceforth rectilinear. Doors were already pivoted on socket-stones as in historical times, but some small rooms have no openings at floor level. Walls were often preserved up to a metre in height so that a hypothetical reconstruction of a house of level IV can be presented—with gabled roofs as today. An important find was a sickle. The wood had indeed almost totally decayed, but the component flints were still held in place by the bitumen used as cement ; the separate flakes overlap slightly and are not set in line as in the early sickles from the Fayum, Sialk and Mt. Carmel but on a curve so gentle that an arc of cord 31 cm. was only 5 cm. high.

The excavators compare their results with those obtained in early levels at Judeideh, Ras Shamra, Jericho and Mersin. At the last named site there is a well-defined series

of levels prior to the Halafian in which however painted pottery already occurs. Burkitt has labelled these ' protochalcolithic ' rather than neolithic, and with them the levels Ib to VI at Hassuna are evidently homotaxial as the terminology adopted by Lloyd and Safar is designed to indicate. Below at both sites came strata without painted pottery for which the term ' neolithic ' is reserved. But the neolithic pottery of Hassuna is not that of Mersin where polished grey-black-red-pink wares prevailed. The latter of course are related on the one hand to the well-known Mediterranean family, on the other to those from the lowest levels at Judeideh (Amuq A) and Sakje-geuzi in North Syria. Now Christian, on the strength of isolated sherds of grey ware from Chagar-bazar, Arpachiya and Niniveh I, had assumed that the holocene culture-sequence in Mesopotamia would begin with a ' Sakje-geuzi culture '. This assumption must be abandoned. Not only is the rough Hassuna neolithic with its mud pie forms quite different from the stony Sakje-geuzi vases. A dozen actual sherds of polished grey ware did turn up at Hassuna, but the best occurred as late as level IV or V, not Ia.

As to the succeeding protochalcolithic wares they are a novelty though a few stray sherds had been collected by Mallowan at Nineveh and later by Braidwood at Judeideh (Amuq B). The comparisons suggested by Lloyd with the earliest painted wares from Jericho, Megiddo and Sakje-geuzi are admittedly of a very general character. Still further afield, if Asiatic connexions are to be sought for the Thessalian neolithic A series, Hassuna archaic has better claims than Halafian to which I have previously pointed. It uses red lustrous (presumably glaze) paint for basketry patterns that could be paralleled in Greece where, too, globular jars with short necks were popular as well as bowls. But other Asiatic elements, such as stamp seals, noted in Greece, have not yet appeared at Hassuna.

Another outstanding problem is half-solved by the new excavations. Levels III to V produced in all bits of some 330 vessels of true Samarra ware (as against 1570 of the local painted or incised). The vexed question as to whether the Samarra style preceded or was contemporary with the Halafian is thus settled in the former sense. But we have not yet found a ' Samarra culture ' but only a ceramic style, as Braidwood had previously insisted. Lloyd and Safar regard this ware as ' a superior commodity '—Samarra vessels have often been mended with rivets—' imported from elsewhere by the indigenous people of Hassuna '. But no site occupied exclusively by its makers and no assemblage of distinctive archaeological traits exclusively associated with Samarra pottery has yet been identified. Hence in his introduction Braidwood now considers favourably an alternative that Samarra represents a kind of ' luxury ware factor in northern Iraq ', that might be due, for instance, to ' some group of (? travelling) craftsmen who created a special style of their own out of the Hassuna archaic and standard traditions of painting '. Yet there are plenty of corners round northern Iraq still unexplored. The quantities of obsidian used at all levels at Hassuna and the variety of stones employed for beads from Ib onwards prove that conditions of farming on the steppe were compatible with a lively interchange of commodities. If it be difficult to believe in an extensive commerce in articles so fragile as pots, I find it still harder to admit specialized potters at so early a stage of economic development. It might be more plausible to suppose that women from still hypothetical Samarra villages, marrying into other communities, brought with them their home traditions of potting. It is noteworthy in any case that the excavators can distinguish at Hassuna local imitations of Samarra pots with Samarra designs executed in the technique and in the slovenly manner of Hassuna standard ware.

All historians of human culture are indebted to the excavators for the promptitude with which they have published such highly significant results, to the editors of the *Journal* for giving hospitality to the report, and to Dr Braidwood for seeing it through

the press under wartime conditions and for adding a helpful introduction. Both Seton Lloyd and Fuad Safar are to be congratulated on recognizing at once the importance of the site and on their skill and judgment in its excavation. They are to be specially commended for their attention to small details and ' minor ' finds (e.g. animal bones) of a kind too often neglected by excavators in the Near East. The comparatively small sounding has established definitively the culture sequence, and that not only with a couple of museum pieces and some basketfuls of sherds and flints, but with a wealth of detail that enables us to compare the life of this Mesopotamian village with the systadial village of Sialk in Iran or Merimde in Egypt.

Nevertheless, with monumental remains of such early cultures so wonderfully preserved and yet so near the surface, more extensive operations should yield still more valuable results. It should be then possible to estimate the population of a protochalcolithic village on the steppe (a calculation by the way that would not be without practical value to legislators concerned with the carrying capacity of the area) and to give a more complete and reliable picture of its economic and social organization. An enlargement of the very small area on virgin soil actually examined might bring about a revision of the excavators' tentative conclusions as to architecture and economy.

Then, while the excavators have bestowed unusual and commendable attention to stone implements, they are forced to admit that there ' are no experts in the Department with sufficient experience to comment authoritatively on the stone, flint and obsidian artifacts '. Now we hope that the young Iraq State recognizes the moral and even economic value of the varied antiquities contained in the national soil, and that its citizens will themselves undertake their study as Fuad Safar is already doing so well. To qualify them some suitable students should be sent to Europe and encouraged to master at least the general principles of the classification of flint implements. After all Iraq contains palaeolithic as well as later remains. Again, no actual grains were found. But the clay of the jars and bins must almost certainly contain at least casts of grains the nature of which could be determined by the techniques so successfully applied by Jessen and Helbaek in Denmark. The biological section of the royal Iraqi Hospital generously undertook the examination of animal remains but was obviously handicapped by a lack of comparative material. On all these points additional information is needed before the results already attained can be fully evaluated. V.G.C.

ART: A BRYN MAWR SYMPOSIUM. (Bryn Mawr Notes and Monographs IX). Richard Bernheimer, Rhys Carpenter, K. Koffka, Milton C. Nahm. pp. xii, 350. *Bryn Mawr College, Pennsylvania*, 1940.

It has been felt in many quarters that the courses of study in universities are too narrow and specialised, and that there is a need to supplement them in some way, in order to endow them with perspective and so contribute to a more educated outlook upon human affairs. This belief, strongly held at Bryn Mawr, has led to the arrangement there from time to time of courses of lectures upon some topic of universal interest, delivered by members of those departments that might reasonably lay claim to have some pre-occupation with it. In the case of the lectures here reviewed the subject was ' art ', and the contributors represented the points of view of an art-historian, an archaeologist, a psychologist, and a philosopher.

We need only to turn to the correspondence columns of the daily press to discover that the appraisal of a work of art not only reveals a wide divergence of intellectual judgment but often arouses passionate emotions, whether the object be a painting by Picasso, a work of sculpture by Epstein, or even a more orthodox production, such as the

equestrian portrait of Earl Haig, about which discussion raged some years ago. Naturally the reader of these lectures will find no clear-cut solution to the difficult problem of what constitutes a work of art, and by what criterion it should be judged, but he will find much to aid and stimulate him in his own reflection on these matters. ' Our object ', says the writer of the preface, ' will have been attained if the chance reader of this little book is struck by its irreconcilable variety and its thorough lack of conclusiveness '.

Dr Bernheimer opens the series with lectures ' In defence of representation ' and ' Concerning symbols ', subjects which carry him into philosophic problems, although his professed point of view is that of the art-historian. His treatment is, indeed, largely historical, and he shows how the relation of the artist to his subject-matter is conditioned by the age and society in which he lives and works, whether Mediaeval, Renaissance, or modern. ' We have developed ', he says, ' in our time the unique phenomenon of a cleavage between art contrived for public consumption and art as self-expression—in short between art for the public and art for the artist '. After some discussion of the possibilities of abstract art, Dr Bernheimer concludes that ' representation in art is ultimately inevitable '. In his second lecture he develops the notion of representation, and defines it in wider terms than mere resemblance as between an image and its prototype, the only essential element being that ' there should be a definite relation between the representation and the represented, and that this relation should not be reciprocal '. ' This wider definition opens the way to an examination of the concept of the symbol ', which holds the key position to the religious and artistic activities of man ', and the thesis is advanced that ' art is in itself a symbol through its form '.

Professor Rhys Carpenter in his lectures on ' The archaeological approach ' and ' The evolution of modern painting ' begins by stressing the factual approach of the archaeologist to all his material.

> ' . . . the peculiar behavior which makes an archaeologist what he claims to be, is his naive and child-like insistence on adhering to material tokens and remains. For him, Helen of Troy is only a bronze-age skeleton (L.H.III, to be exact); but the possibility of excitement in such prosaic behavior comes from the extraordinary difficulty in guessing which out of his numerous and attractive collection of L.H.III skeletons is—or was—Helen '.

It is the obligation to label and classify their material that compels the archaeologists to examine it in detail, and, in the case of works of art, to study the technical style and establish those sequences by means of which they may allocate a particular specimen to its place in the series. ' They must themselves construct the history of art before they can make use of it '.

In the history of the technique of art Professor Rhys Carpenter regards as the most important stage that at which the conventions of the archaic phase, which he describes as ' a blind alley, a veritable cul de sac ', are abandoned in the quest for representational fidelity. ' The crucial moment for the sculpture (or for that matter the painting) of any people in any time or place is precisely here. Will it come out of its archaic phase ' ? So in tracing the evolution of modern painting Professor Rhys Carpenter describes the constant endeavour of the Italian painters from Giotto onwards to escape from the archaic phase of ' conceptual representation ' to a naturalistic treatment. And when the technique has been fully mastered, and the artist no longer finds any difficulty in portraying sensuous objects of the world about him, what then ?

> ' In the late Roman Empire art escaped from the outworn repetitions of imitative fidelity. It escaped by discovering a transcendental meaning for its traditional subject-matter. And this was tantamount to the discovery that even representational

art is in the last analysis symbolic, since mere mimesis is a dubious justification for its existence, even as Plato foretold '.

So in spite of the factual approach to his problem, the archaeologist comes back to the doctrine of symbolism, but asks a further pertinent question. The Byzantine age could readily escape into a transcendental world of religious concepts.

' But our modern age can hardly supply a comparable transcendental world. Yet art's only really arguable escape from representation is into conceptualism, which is a form of symbolism. If the ultimate destiny of painting is symbolism, we well may ask of the modern world—" Symbols of what " ? '.

Professor Rhys Carpenter suggests that the abstractionists would find the ultimate content of art ' emotional rather than conceptual, aesthetic rather than religious ', while the surrealists ' are attempting an almost Freudian value for their symbols '.

Professor Koffka in his lecture on ' Problems in the psychology of art ' discusses the nature of a work of art and its relation to the emotion which it arouses in those who behold it and in the artist who creates it. Professor Koffka's treatment is somewhat technical and his readers must be prepared for the jargon of the trade—' ego-object relationships ', ' ego-detachment, and ' physiognomic characters ' in ' phenomenal objects '. If they are not deterred by this nomenclature and by such distinctions as the greater ' ego-requiredness ' of one work of art than that of another, and are prepared to analyse the characteristics of a ' good gestalt ', they will find much acute discussion of the nature of the emotional response evoked by a work of art, or—in the language of the psychologists—an ' art-object ', including some interesting remarks on the theory of ' empathy '. Topics of a more general character include ' the aim of the creative artist ', ' art and morals ', ' light and serious art ', and ' the artist's personality '.

Professor Koffka concludes that ' in a work of art the contingent characters of the world are subservient to its intrinsic properties ; mere factuality is subordinated to requiredness ' and in terms less technical and grotesque, that ' a work of art reveals, however dimly, our place in a universe that is infinitely greater than our egos '.

Although all the speakers in this symposium raise philosophic issues, the role of philosopher is officially represented by Professor Nahm, who concludes the series with lectures on the classic problems of ' Form in art ' and ' The function of art '. Starting from Plato, Professor Nahm reviews some of the theories that identify form with the absolutely beautiful and the consequences that follow from them—' the exclusion from the aesthetic field at one time or another of tragedy, comedy, representative or imitative art, and distortion '. Furthermore ' once the beauty of the formal object is taken to be " absolute " and " not relative " art is defined teleologically '. Plato identified such absolutely beautiful forms with mathematical figures, Kant with spatial entities, such as flowers, birds and sea-shells. Professor Nahm argues that, from the whole tenor of their work and from the illustrations which they offer, it is clear that ' both Plato and Kant have used *form* and *unity* as identical terms '. He would himself extend this notion to include unity of purpose, so that ' all that may be said is that the object must be unified, whether in terms of boundary or in terms of end . . . and that mathematical measure and boundary—as unifying principles—are no better and no worse than pedagogy, morality, perfection, desire, etc., as means of unification '.

' Form is not valid as a strict limitation upon objects in the aesthetic universe of discourse. There are no absolutely beautiful objects. Form is the name for a problem. It tells us what the necessary condition for aesthetic experience is, i.e. unity. It asks us to find, in addition to that necessary condition, the sufficient condition as well. It demands that we designate the unique function of art '.

Professor Nahm finds such a function in the effect of art on the life of feeling. ' The end of art is the establishment of a mood or ' stimmung ', a term adapted because it implies the proper combination of contemplation and feeling '. Such a mood gives refreshment and stimulates creative activity. ' Art is, perhaps, the greatest energizer of man ', says Professor Nahm, and quotes with approval the words of E. A. Singer, ' Art creates the creator '.

These brief summaries indicate the variety of aspects presented by the problem of art, and if the plain man finds himself a little bewildered by their complexity, he may comfort himself by the reflexion that ultimately the last word rests with him, for, given a sufficient lapse of time, in no field is it more true to say *securus iudicat orbis terrarum.*

G. F. FORSEY.

THE VICTORIA HISTORY OF THE COUNTY OF WARWICK, VOL. III, BARLICHWAY HUNDRED. *General Editor*: L. F. SALZMAN, M.A., F.S.A.; *Local Editor*: PHILIP STYLES, M.A. *Published for the University of London Institute of Historical Research by the Oxford University Press*, 1945. *Cloth*, 42*s*; *half-leather*, 63*s*.

This third volume of the Victoria County History of Warwick constitutes the first of the topographical volumes designed to supplement the two introductory volumes published in 1904 and 1908. It comprises the history of the Hundred of Barlichway, the part of the county which included Alcester, Henley-in-Arden, Snitterfield and Stratford-upon-Avon with the adjacent Avon and Arden country.

Prefaced by essays on the Hundreds of Warwickshire and Barlichway Hundred in particular, the volume contains a separate history of each parish (with a few exceptions which will be included in the next volume) within the Hundred. The treatment is adjusted to meet the needs of each particular case, but invariably includes general topographical information, the history of the manor and advowson, a description of the church and other buildings, and a summary of charities. Where applicable sections are devoted to common fields and enclosures, mills, industries and special aspects of social and economic history.

The historical accounts are the work of a team of authors, several of whom possess the advantage of having local topographical knowledge. Mr J. W. Bloe, F.S.A., has contributed the architectural descriptions throughout. In previous volumes of this kind the sub-division of labour as between editors and contributors has not always produced happy results, but generally speaking the planning and detailed execution of this volume leave little to be desired. Each section has been kept in good proportion and harmony of presentation, though occasionally the need for compression has resulted in the omission of detail worthy of recording. Special mention must be made of the excellence of the architectural descriptions, of the photographic illustrations by Mr W. A. Clark, and of the neatly-executed heraldic drawings and blazon by the late Canon Dorling.

Approximately one-fifth of the volume is devoted to the history of Stratford-upon-Avon. The work of the local editor, Mr P. Styles, this affords a good example of the scholarly presentation of a most fascinating local history subject. The author has made good use of the borough collection of records and other scattered sources. Much new ground is broken and the sections dealing with the economic history and constitutional development of the town are particularly valuable. It is a matter for regret, however, that a plan of Stratford is not included; for without one the stranger finds it difficult

to appreciate fully the topographical and architectural information. It is also surprising that no illustration of Stratford's two most famous buildings, Shakespeare's Birthplace and Anne Hathaway's Cottage, is included.

A few other points of criticism may be mentioned. The small scale reproduction of Beighton's map of Barlichway Hundred is irritating and inadequate. The parish church at Arrow is dedicated to the Holy Trinity and not to St. James. Three different spellings of Rychnield way, the name of the Roman road, have been noted. No mention is made of the interesting dovecote and barns at Mary Arden's House, Wilmcote. More maps of the larger parishes and plans of churches and of country houses might with advantage have been included.

But these blemishes do not detract from the general excellence of the volume, which constitutes a notable addition to the bibliography of the history of the county. Both editors and publishers are to be warmly congratulated on having maintained the original pre-war format and style of production. The remaining volumes to conclude the history of Warwickshire are eagerly awaited. LEVI FOX.

THE PROVINCE OF MAR. *By* W. DOUGLAS SIMPSON. (Being the Rhind Lectures in Archaeology, 1941) Aberdeen University Studies, no. 121. *Aberdeen : The University Press*, 1943. pp. XII, 167, *with many plates and text-figures. Paper 7s 6d, Cloth 10s 6d.*

The writer of this review has often urged the need for more detailed regional surveys in Britain. The argument is obvious enough : the labours of a succession of archaeologists have produced an excellent set of generalizations, based upon general studies of distributions and of topographical and environmental factors, which may be said to mark the first step in our progression towards an understanding of the past. Local surveys are now called for to fill out and develop, probably also to modify, that picture ; and so to lead to the next phase of generalization. No country is better adapted than our own for such regional surveys : its regions are compact, of convenient size, richly provided as a general rule with a wide variety of evidence. And each has usually its own uniqueness, its own distinctive flavour, to add piquancy to the dish for all concerned.

The Province of Mar in north-east Scotland is one such area : the region between the rivers Dee and Don, passing into the Highlands on the west, closely related to the Garioch on the north, shut off by the range of hills known as the Mounth of the south. Dr Simpson's study of it is a valuable essay which goes a long way towards providing the sort of survey we require.

It is not difficult to determine what the basic needs are. We do not yet possess in a sufficient quantity the *detailed* evidence on which a more exact understanding of the human story depends. In regard to the area chosen for closer study, we require to see more exactly the relation of site and find to their setting and to one another, and from them to be able to visualize the how and why of the sequence of events as it develops in the area itself ; outside that area we hope to evaluate the varying parts played by border-lands and external cultures.

His survey, Dr Simpson tells us, is not as full as he had intended : his wish to enlarge the original lectures was frustrated by the war ; and we can only regret with him that this was so, since there is every indication that the result would have been of the greatest value. To this circumstance we must no doubt ascribe the somewhat generalized nature of some of his treatment and conclusions. Particularly is this so perhaps on the cartographic side. We miss in the first place a physiographic map to illustrate his account

of the general character of the Province : in his lectures Dr Simpson was clearly catering for a ' local ' audience : the reader who knows not the localities will be lost without a good atlas of Scotland, and may have some difficulty in determining for himself just what are the boundaries of Mar and the Garioch. So too in matters of greater detail. Dr Simpson makes the important point that while there was little early settlement of the area above the 800 feet contour, the richer agricultural soils of Don were preferred throughout prehistoric and medieval times to the sandy soils of Dee. A map illustrating this correlation would have been most welcome, even if in the circumstances the information shown on it had to remain incomplete.

I mention these omissions, however, only to say that I feel sure that they are in fact due to pressure of circumstance. For Dr Simpson shows himself fully aware of the importance of the physio-geographical approach, of which he makes very good use. The theme recurs throughout the book—indeed, for this very reason the absence of good maps is the more acutely felt—and its presence in the account of the later phases is particularly welcome, because too often workers in the historical periods have not given it due regard.

If the conditioning effect of physical structure on the history of Mar is one of the main lessons which emerge from Dr Simpson's book, another is that of continuity. It has its beginnings in the first great settlement of the area in early Bronze Age times, whose broad-headed invaders introduced physical characteristics which have persisted and remain strongly marked amongst the present-day inhabitants of Mar. Culturally, of course, this continuity finds expression in the survival of Keltic civilization : at the dawn of the Christian period, the result was, in Dr Simpson's words, ' a Bronze Age civilization with a Keltic top-dressing '.

The recumbent stone-circles are a manifestation of the former which seem to have continued to command attention from the Iron Age peoples, as well as later from the early Keltic Church. Dr Simpson's account of them is of great interest and value. The Keltic ' top-dressing ' becomes the so-called ' Pictish culture ' (the term here has no chronological implications), with certain distinctive types, like the Don terrets, which it seems to have exported ; and, later, the Pictish symbol stones, of which also we are given a full account.

Politically, the threat of Scandinavian invasion in the 10th and 11th centuries produced the Kingdom of Moray as a combination of the Keltic inhabitants of north-east Scotland against a danger which did not in the end seriously affect Mar, at any rate in ways which can be archaeologically recognized to-day. At this time, too, the Mormaers of Mar first appear, although Dr Simpson sees their origin as Keltic chieftains in a more remote and at present not very clearly defined past.

The subsequent history of Scotland is to a large extent the story of the final clash of cultural, ethnic and dynastic differences, which was finally ended by the introduction of the feudal system by the Normanizing Scottish kings of the 12th to 13th centuries. And here once again continuity and geography play their part. The early Keltic Church had established its new churches on the sites of older settlements out of regard for sentiment and tradition as much as for the fact that these sites had remained as centres of population ; infeudation followed the same principle. In the early struggles for supremacy between Moray and Canmore (many of which were fought out in Mar), and in the siting of the great castles on which the feudal system was ultimately founded, natural routes and the necessity for controlling them continue to exercise a dominating influence.

This survey, therefore, has much more than a local interest : it must be of value to

workers in other areas where the same or similar processes were at work, as for instance in Wales. Perhaps it is now too much to hope that Dr Simpson will undertake the larger work mentioned in his Preface. Were he to do so, he could be sure that it would be welcomed by students in many fields. W. F. GRIMES.

LES MONUMENTS FUNÉRAIRES DE BUZENOL. *By* M. E. MARIËN. (Extrait du *Bulletin des Musées d'Art et d'Histoire*, 1943, 1944). *Reprinted Brussels*, 55 pp., 41 *figures*.

This is a detailed study of a group of funeral monuments set up in the late second, and early third, centuries at Buzenol, near the Roman road from Reims to Trier. A score of monumental sculptured blocks provides evidence for the former existence of at least six lofty monumental tombs of the Igel type, two or three smaller ones, three altar-tombs and one tombstone-slab. They were found in the 1913–14 excavations at Montauban, where an Iron Age fort had been refortified apparently in the fourth century A.D. with materials taken in part from the neighbouring tombs at Buzenol. For his careful reconstructions M. Mariën makes full use of the comparative material from Arlon, Neumagen, and Igel, but points out the local differences. He states the divergent views about the evolution of these monumental tombs but does not here seek to provide the solution.

In addition to the figures of the persons commemorated, there are a few interesting scenes from daily life. The best-preserved one shows two men using a steelyard with a third man keeping a record on a tablet ; other panels are fragments of agricultural scenes.

A recent rearrangement of the massive blocks in the Museum at Brussels has enabled the author to identify one of the fragments (item 7) as being part of the monument with the Man with a purse (item 4). In the present reprint he has made the consequential alterations to his original articles with the minimum changes to the text and figures.

There are only two inscriptions, one from the frieze of a tomb and the other damaged milestone set up under Claudius on the neighbouring Roman road. The restoration of the fourth year of tribunician power should date the milestone between 25 January 44 and 24 January 45 rather than to the calendar-year 44.

There is good reason for thinking that the site at Montauban must conceal much more of the material from the Buzenol tombs. It is to be hoped that renewed excavation may add much to these tantalising first-fruits which serve to illuminate one aspect of provincial art. At the same time a serious attempt should also be made to distinguish the circumstances in which this material came to be re-used, for that too is an important aspect of social history. R. P. WRIGHT.